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READING FOR ETHIOPIA'S ACHIEVEMENT DEVELOPED
TECHNICAL ASSISTANCE (READ TA)

Final Report

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ABBREVIATIONS AND ACRONYMS

ATCBI	Assistive Technology Capacity Building Initiative
ARRA	Agency for Refugees and Returnee Affairs
BfA	Books for Africa
CAEB	City Administration Education Bureaus
CB	capacity building
CD	compact disk
CDI	curriculum development and implementation
CEICT	Center for Educational Information Communication Technology
ChSA	Charities and Societies Agency
CTE	college of teacher education
DPO	disabled people's organizations
DSA	daily subsistence allowance
EBC	Ethiopian Broadcasting Corporation
EdData	Education Data for Decision Making
EGR	early grade reading
EGRA	Early Grade Reading Assessment
ESA	English Situation Analysis
ESDP	Education Sector Development Programme
FAA	Fixed Amount Award
FAQ	frequently asked question
FSU	Florida State University
G&I	gender and inclusion
G&IE	gender and inclusive education
GTP II	Growth and Transformation Plan II
HI	hearing impaired
ICT	Information and Communications Technology
IMLP	inclusive multimedia lesson plan
IR	intermediate result
IT	information technology
M&E	monitoring and evaluation
MLC	minimum learning competency
MOE	Ministry of Education
MOU	memorandum of understanding
MT	mother tongue
MTCD	mother tongue curriculum development
MTELD	Mother Tongue and English Language Development
MTTF	Mother Tongue Task Force
NGO	nongovernmental organization
PSA	public service announcement
Q	quarter
R&C	reading and curriculum
READ	Reading for Ethiopia's Achievement Developed
READ CO	Reading for Ethiopia's Achievement Developed Community Outreach
READ M&E	Reading for Ethiopia's Achievement Developed Monitoring and Evaluation
READ TA	Reading for Ethiopia's Achievement Developed Technical Assistance
RSEB	Regional State Education Bureau
SB	student book
SCC	school cluster centers
SCI	Save the Children International
SEN	special education needs
SNE	special needs education
SNNPR	Southern Nations Nationalities and Peoples' Region

SRM	supplementary reading material
TDP	teacher development program
TG	teacher guide
TLL	Tsehai Loves Learning
TOR	terms of reference
TOT	training of trainers
TT	teacher trainers
TTM	teacher training manual
TV	television
USAID	US Agency for International Development
VI	visually impaired
WEO	Woreda Education Office
WKW	Whiz Kids Workshop
ZED	Zone Education Department
ZEO	Zonal Education Offices

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READ TA/RTI International recognizes the collaboration of the Ministry of Education and Regional State Education Bureaus for the successful completion of the activity. Implementing partners (Books for Africa, Florida State University, Inveneo, Save the Children International, SIL LEAD, and Whiz Kids Workshop) also played a pivotal role in realizing the activity's intermediate results.

The activity was made possible with financial support from the American people through the United States Agency for International Development.

ACTIVITY OVERVIEW/SUMMARY

Activity Name:	Reading for Ethiopia's Achievement Developed Technical Assistance (READ TA)
Activity Start Date and End Date:	October 8, 2012 to January 31, 2018
Name of Prime Implementing Partner:	RTI International
Cooperative Agreement Number:	AID-663-A-12-00013
Name of Subcontractors/Sub-awardees:	Books for Africa, Florida State University, Inveneo, Save the Children International, SIL LEAD, and Whiz Kids Workshop
Major Counterpart Organizations:	Ministry of Education and Regional State Education Bureaus
Geographic Coverage (cities and regions):	Nationwide with offices in Amhara (Bahir Dar), Ethio-Somali (Jijiga), Oromia (Addis Ababa), SNNPR (Hawassa), and Tigray (Mekelle).
Reporting Period:	October 8, 2012–January 31, 2018

EXECUTIVE SUMMARY

The number of primary schools in Ethiopia has increased from 11,000 in 1996 to more than 32,000 in 2015. Likewise, student enrollment grew from less than 3 million to more than 18 million children in school. Although these increases resulted in more than 100% of the net intake¹ ratio, pupil-teacher ratios, grade repetition, and dropout rates also increased or remained high.

Furthermore, in 2010, the United States International Development Agency (USAID) conducted an Early Grade Reading Assessment (EGRA) measuring student literacy in Grades 2 and 3. Findings from the EGRA indicated that children in these early grades were not developing the basic skills required to effectively learn in their later school years. This led to the creation of Reading for Ethiopia's Achievement Developed Technical Assistance (READ TA), a 5-year activity (October 2012–January 2018) funded by USAID and implemented by RTI International to improve the reading and writing performance of 15 million primary students in seven Ethiopian languages (Afaan Oromo, Af-Somali, Amharic, Hadiyyisa, Sidaamu Afoo, Wolayttatto, and Tigrinya) and English. The activity was implemented in Amhara; Ethio-Somali; Oromia; Southern Nations, Nationalities, and Peoples' (SNNPR); and Tigray regional states with collaboration by the Ministry of Education (MOE), Regional State Education Bureaus (RSEBs), and six implementing partners (Books for Africa [BfA], Florida State University [FSU], Inveneo, Save the Children International [SCI], SIL LEAD, and Whiz Kids Workshop [WKW]).

READ TA focused on four intermediate results (IRs) and incorporated gender and inclusion as a cross-cutting priority. The activity also supported existing government policies on inclusive education, such as the special needs education (SNE) program strategy. Below is a summary of READ TA's achievements by IR.

IR 1: READING AND WRITING MATERIALS APPROPRIATE FOR PRIMARY CLASSROOMS AND PRE-SERVICE AND IN-SERVICE TEACHER TRAINING DEVELOPED

- Revised the national mother tongue (MT) syllabi for Grades 1–8.
- Adapted the Grades 1–8 national MT syllabi to seven languages.
- Developed a scope and sequence for Grades 1–8 curriculum in seven MTs.
- Developed 112 high quality, grade appropriate Grades 1–8 reading and writing curriculum materials in the seven MTs for students in Amhara, Oromia, SNNPR, Ethio-Somali, and Tigray regions.
- Adapted the Afaan Oromo, Af-Somali, and Amharic Grades 1–8 reading and writing curriculum materials (originally prepared by READ TA for students in Oromia, Ethio-Somali, and Amhara regions, respectively) for students in seven other regions and two city administrations. In total, 192 additional Grades 1–8 adapted curriculum materials were produced.
- Developed 16 Grades 1–8 English reading and writing curriculum materials for use nationwide.
- Printed and distributed more than 2.5 million copies of seven MT Grades 1–4 student books (SBs) and teachers' guides (TGs), which were delivered to RSEBs in five target regions.
- Conducted an EGRA for two SNNPR languages (Hadiyyisa and Wolayttatto).
- Provided technical support to the revision of Harari language curriculum materials.

¹ Net intake ratio is an indicator that looks at those children who are of the correct age to enter Grade 1. For Ethiopia, the net intake ratio is the proportion of 7-year-olds who enroll in Grade 1.

IR 2: LANGUAGE-SPECIFIC TEACHING AND LEARNING METHODOLOGIES AND STRATEGIES THAT FOCUS ON HELPING STUDENTS LEARN TO READ AND WRITE EFFECTIVELY ARE APPLIED

- Trained 103 master trainers and 2,474 teacher trainers for Grades 1–8 in 7 MT.
- Trained or supported training of 176,394 Grades 1–8 MT teachers on the content, organization, approaches, and methods of the revised Grades 1–8 MT reading and writing curriculum materials.
- As part of these teacher training efforts, successfully administered the issuance of teacher training grants by working closely with the MOE and RSEBs. Executed six teacher training grants and trained 113,385 (53,526 women) MT teachers in Grades 1–8 from the five target regions.
- Developed recommendations for implementing the revised English curriculum.
- Developed teacher training manuals and trained 120 English experts (77 for Grades 1–4 and 43 for Grades 5–8) on the revised English curriculum materials.
- Introduced the MT teacher mentoring approach and materials in seven MTs for Grades 1–8 in the five target regions. Piloted the approach in a study comprising 125 schools.
- Trained 142 (11 women) MT teachers (Af-Somali and Tigrinya) from two refugee camps hosting Somalian refugees and four refugee camps hosting Eritrean refugees. Printed and distributed accompanying TGs and SBs.

IR 3: LANGUAGE TEACHING AND LEARNING SUPPORTED BY APPROPRIATE TECHNOLOGY AND TEACHING AIDS

- Developed 235 model teacher videos.
- Developed phonological awareness application, Papaya, for seven MTs.
- Supported pre-service MT teacher training with technology and multimedia content as part of the MT package, which included tablet devices, projectors, and document cameras, as well as model teacher videos, an audio companion, and Papaya in seven MTs. Built technical support capacity for the MT package within RSEBs and colleges of teacher education (CTEs).
- Built local writers' capacity to write grade-appropriate children's books.
- Produced 56 television cartoon episodes (8 per language) and 8 public service announcements supporting early grade reading and writing. We also produced sign language translations of each of the videos in the respective MTs.
- Distributed 531,809 donated grade- and context-appropriate English supplementary books to 1,037 primary school cluster centers (SCCs) in all Ethiopian regions and city administrations.
- Trained 842 library coordinators to manage all the resources they receive for improved reading and writing, including the English supplementary materials from all regions and city administrations of Ethiopia.
- Introduced a pilot assistive technology capacity building initiative in MT instruction for students with visual and hearing impairment. The pilot was conducted in 63 schools and 109 classrooms in Grade 2 across the five regions.
- Integrated Information and Communications Technology (ICT; e.g., Bloom, PrimerPro, WeSay, and Tangerine®) to support activities.
- Provided technical assistance for other READ projects in developing supplementary reading materials and teaching aids.

- Procured additional ICT package equipment and provided laptops with JAWS software for visually impaired CTE MT instructors.

IR 4: TECHNICAL ASSISTANCE SUPPORT TO RSEBs AND THE MOE FOR INSTITUTIONAL IMPROVEMENT

- Revised pre-service MT teacher education curriculum, which resulted in the development of seven pre-service MT course modules.
- Trained 250 pre-service MT teacher educators from the 36 CTEs.
- Used a needs assessment to determine and provide the needed capacity building for MOE, RSEB/Zone Education Department (ZED), and Woreda Education Office (WEO) experts and leaders on curriculum development, formative evaluation.
- Capacity building provided to 3,208 school cluster supervisors and principals.
- Produced strategic documentation on adaptation of new MT curriculum materials for SNE students.
- Produced an example braille student book in the seven MTs for Grade 2 students with visual impairments.
- Organized a national READing symposium attended by 182 participants (47 women) from the MOE, RSEBs, City Administration Education Bureaus (CAEBs), Ministry of Finance and Economic Development, Ministry of Culture and Tourism, Parliament, all READ projects, and other development partners.

The success of READ TA was not without challenges, including registration with the Charities and Societies Agency (ChSA), lengthy MOE and RSEB approval processes, ensuring equal attendance/participation by women in READ TA workshops and activities, difficulty in obtaining accurate and timely data to plan activities, daily subsistence allowance regulations, security issues in the Oromia region, and the Oromia region's decision to suspend the use of new curriculum materials.

Before closing, the activity held exit consultations with all regional RSEB representatives in their respective regions to ensure activity sustainability and ownership at the regional level. Presentations were made by regional managers summarizing achievements.

This final report complements detailed quarterly reports and annual reports developed by RTI throughout the life of the activity and submitted to USAID, which are also available on the publicly-accessible Development Experience Clearinghouse website (<http://dec.usaid.gov>).

I COUNTRY CONTEXT

Ethiopia has embarked on an ambitious path to become a middle-income country with a climate resilient and green economy by the year 2025. The country's 5-year Growth and Transformation Plan II (GTP II; 2015/2016–2019/2020) commits to maintaining double-digit, broad based, and pro-poor economic growth, doubling agricultural growth and increasing the share of industry in the economy.

With its population of 94,352,000 as of July 2017 (www.csa.gov.et), Ethiopia continues to be the strategic anchor for peace and security in the Horn of Africa, supporting the African Union Peace-keeping operations in Somalia and South Sudan. However, the recent growing internal upheavals are causing turmoil in many parts of the country.

READ TA was implemented between the second year of the Education Sector Development Programme (ESDP) IV (2010/2011–2014/2015) and third year of ESDP V (2015/2016–2019/2020). It also coincided with the national GTP II. ESDP IV had two main goals: (1) improve access to quality primary education to make sure that all children, youth, and adults acquire the competencies, skills, and values necessary to fully participate in the development of Ethiopia and (2) sustain equitable access to quality secondary education services to meet the economy's demand for middle- and higher-level human resources. ESDP and GTP served as the roadmap for the education sector in Ethiopia and, therefore, READ TA.

Regarding general education, GTP II outlines the need to expand access to basic education services to all Ethiopians and scale-up education sector best practices that are registered in the implementation process of the UN Millennium Development Goals. In addition, to ensure quality, fair, and accessible education in pre-primary, primary, and secondary education for all, cost effective and participatory education will be expanded through both formal and non-formal delivery mechanisms.

Under the General Education Quality Improvement Program, large-scale textbook production and distribution took place during ESDP IV aimed at achieving a student to textbook ratio of 1:1 for all levels of primary and secondary education. However, the actual rate of textbook availability and use in classrooms across the country appears to be lower. Further, there remains a shortage of educational and curricular materials adapted for learners with special education needs despite READ TA's headway.

EGRA

The 2010 EGRA study, funded by USAID and conducted by RTI, on students' reading levels in Grades 2 and 3 showed that children were not developing the basic skills required to effectively learn in later years. For example, 34% of participating Grade 2 students were unable to read a single word of a grade-level relevant story, 48% were unable to answer a single comprehension question on a reading comprehension test, and only 5% could read 60 words per minute in reading fluency (the expected standard in 2010). In response to these results, READ TA aimed to develop a national MT curriculum in the seven main languages of Ethiopia, revise the teacher pre-service education accordingly, and train teacher trainers to deliver this curriculum.

A follow-up benchmarking exercise, conducted in 2014 and funded by USAID, served as a basis for setting standards to guide future assessments in the seven MTs. This exercise established the baseline levels of oral reading fluency at four competency levels: (1) none (non-reader), (2) below basic (reading slowly with limited comprehension), (3) basic (reading with some fluency and comprehension), and (4) proficient (reading fluently with full comprehension).

2 ACTIVITY DESCRIPTION

Initiated in October 2012, READ TA was originally a 5-year (2012–2017) USAID-funded initiative to improve the reading and writing performance of 15 million primary students in seven Ethiopian languages and English. The activity was granted a no-cost extension through January 31, 2018.

Working closely with USAID, the MOE, and RSEBs, READ TA was implemented by RTI International and six implementing partners (BfA, FSU, Inveneo, SCI, SIL LEAD, and WKW).

The activity was a major component in the effort to improve the learning outcomes of primary-school students, specifically in reading and writing. In this regard, READ TA aimed to achieve the following four intermediate results (IRs):

- IR 1: Reading and writing materials appropriate for primary classrooms and pre-service and in-service teacher training developed
- IR 2: Language specific teaching and learning methodologies and strategies that focus on helping students learn to read and write effectively are applied
- IR 3: Language teaching and learning supported by appropriate technology and teaching aids
- IR 4: Technical assistance (TA) to RSEBs and MOE for institutional improvement

While working to achieve these IRs, READ TA also strove to address two cross-cutting themes of paramount importance in complementing its efforts: (1) gender and inclusion (G&I) and (2) capacity building (CB).

READ TA coordinated activities from its central office in Addis Ababa while operating in five of the biggest regions of Ethiopia. It opened offices in the regional capitals of Amhara, Ethio-Somali, Oromia, SNNPR, and Tigray. The activity also worked remotely with the Addis Ababa and Dire Dawa city administrations, as well as Afar, Benishangul-Gumuz, Gambella, and Harari regional states.

This report is the final activity completion report that outlines the methods of assistance, activity descriptions, accomplishments (i.e., progress towards objectives, intermediate results, indicators, and unmet targets), challenges, lessons learned, and recommendations.

2.1 Methods of Assistance

READ TA/RTI worked closely with the MOE, RSEB, and zonal (in the case of SNNPR) experts. Below are the major approaches the activity adopted, which enabled the efficient and effective use of resources in meeting READ TA activity targets.

Participatory planning

The activity monitoring and evaluation (M&E) plan was developed in close consultation with MOE and RSEB representatives. It served as the lead document in developing annual implementation plans, which were also developed in consultation with MOE and RSEB representatives.

Training cascading

Teacher training was provided in a cascading model. First, READ TA staff trained master trainers, who then trained teacher trainers. Lastly, the teacher trainers trained teachers. This training model enabled READ TA to reach more than 113,000 teachers and more than 3,000 school principals and supervisors through direct teacher training activities.

Capacity building

CB was one of the major activity components that allowed READ TA to enhance the capacity of MOE and RSEB experts, leaders, and implementers to effectively implement planned activities. The CB activities, such as trainings, providing ICT materials, and developing manuals (e.g., mentoring, braille, etc.), impacted systemic challenges at a higher level.

Use of technology

The activity used software, such as PrimerPro, WeSay, Bloom, and Tangerine in its implementation activities. It also delivered multimedia resources and technology for CTEs in support of pre-service teacher training. READ TA also used mobile applications (i.e., smartphone applications) to screen children for hearing and visual impairment, train school supervisors, and collect data at the school level.

Partnership with other implementing partners

The activity was implemented in close collaboration with the MOE and RSEBs and six implementing partners who were assigned to specific IRs (see **Exhibit I**). The partnerships with the MOE and RSEB helped ensure sustainability of the activity. All communication with RSEBs was done through the MOE, facilitating systemic engagement of all levels and regions in activity implementation.

Exhibit I. READ TA Implementing Partners

Partner(s)	IR for which Partner was Responsible
SIL LEAD	IR 1: Reading and writing materials appropriate for primary classrooms and pre- and in-service teacher training developed.
SCI	IR 2: Language-specific teaching and learning methodologies and strategies for more effective reading and writing applied
Inveneo/Corenet; Whiz Kids Workshop; BfA	IR 3: Language teaching and learning supported by appropriate technology and teaching aids.
Florida State University	IR 4: TA support to RSEBs and MOE for Institutional Improvement

Research

The activity conducted research and pilot studies as an approach to design/recommend effective ways of activity implementation. Studies included the assistive technology pilot initiative, English Situation Analysis for Grades 1–8 and 9–12, mentoring pilot, and teacher professional development and support systems.

Inclusiveness, gender, and disability

The activity emphasized gender and disability considerations to be included in all its activities. All curriculum materials and training manuals developed under READ TA followed explicit inclusion guidelines and were validated by external experts.

2.2 Activity Description and Significance

2.2.1 Intermediate results

IR 1: Reading and writing materials appropriate for primary classrooms and pre- and in-service teacher training developed

RTI provided TA to mobilize the national and international reading and language expertise required to revise the MT syllabi and develop SBs and TGs for seven Ethiopian languages and English. MT materials for Grades 1–8 were developed in activity Years 1–3. Development of English materials and supplementary materials started in Year 4 and was finalized in Year 5.

Intermediate Result 2: Language specific teaching and learning methodologies and strategies that focus on helping students learn to read and write effectively are applied

RTI and SCI work directly with RSEBs to reinforce their capacity to successfully use the resources they received under READ TA. This included planning for and making necessary preparations within each region to be able to efficiently train teachers and support rollout and implementation of the

new curriculum. The training content focused on teachers' practical use of the new curriculum materials to ensure effective daily instruction in MT reading and writing.

Intermediate Result 3: Language teaching and learning supported by appropriate technology and teaching aids

READ TA was responsible for demonstrating how technology can promote and support improved teaching and learning. As a result, the activity provided modest technology that were practicable in the given contexts and explicitly linked to the educational and pedagogical objectives inherent in the implementation of the new curriculum.

Intermediate Result 4: TA support to RSEBs and MOE for Institutional Improvement

READ TA built the capacity of CTE, RSEB, and MOE staff in Grades 1–8 reading and writing in seven MTs and English. Illustratively, the activity trained all MT CTE lecturers on the revised pre-service curriculum, trained MOE and RSEB staff on leadership and curriculum implementation monitoring, and delivered a series of large-scale teacher training through grants with the MOE.

2.2.2 Cross-cutting issues

G&I was a cross-cutting priority under READ TA. The activity assigned Gender and Inclusive Education (G&IE) Specialists in its central and regional offices whose main responsibilities focused on ensuring that all activities were conducted to promote G&I sensitivity. READ TA supported existing government policies on inclusive education, such as the SNE education program strategy that committed the MOE and RSEBs to meet the needs of marginalized and excluded populations.

Specific instances of how READ TA integrated gender and inclusion as cross-cutting themes are described below.

Develop gender guidelines

The READ TA G&IE team developed guidelines to enhance gender sensitivity in READ TA trainings and workshops, which stressed the need to consider the needs, priorities, and expectations of both women and men in planning, conducting, and evaluating a workshop/training. This would ensure that women and men were equally engaged as leaders and participants and benefitted from the learning process. The guidelines development required trainers and training organizers to consider all dimensions of trainings/workshops from a gender perspective, i.e., approaches, processes, methods, outputs, content, participation, and representation.

Provide orientation for material developers

All curriculum and materials development work by READ TA was preceded with an orientation for developers on G&I issues. In addition, READ TA's G&IE team provided continuous support during curriculum and material development workshops. G&I issues and dimensions were considered and reflected in the revised MT and English curriculum documents and materials, as well as the model-teacher video production, Tsehai Loves Learning (TLL) episodes production, pre-service modules development, and teacher training manuals for in-service MT teachers. Materials development was sensitive to and paid the required attention to the representation, illustration, language, role, and characteristics in the materials developed. More specifically, all efforts were made to ensure that

- there was balanced representation of men and women in curriculum materials;
- curriculum materials did not reinforce negative stereotypes of women, men, girls, or boys in content or illustrations;
- proverbs, sayings, and similes portrayed positive images about diverse people;
- people with disabilities were represented (balanced representation);
- language used to describe people with disabilities was positive; and

- content and language was appropriate for students from different dialects and cultural backgrounds.

Review materials developed for G&I sensitivity

READ TA's MT curriculum materials quality assurance measures included a G&I-focused checklist and validation checklists by outside experts for READ TA-developed materials.

Adapt curriculum and other materials for students with special needs

READ TA worked to ensure that MT curriculum and support materials were accessible to students with special educational needs. READ TA activities that demonstrated this included

- support for the MOE and RSEBs in developing a strategic document for adaptation of curriculum materials for students with special education needs,
- support in demonstrating the adaptation of MT curriculum materials into braille for blind students, and
- sign language included in TLL episodes and public service announcements.

Ensure technology access for all CTE teacher educators

READ TA provided a MT package that included content and technology resources for supporting MT instruction. However, teacher educators with severe visual impairments who worked at the CTEs could not access the MT package without modifications in how it was presented. Therefore, to ensure that content resources in the MT package were accessible by **all** CTE teacher educators, READ TA provide laptops with JAWS² software to accommodate the needs of the five (four women) visually impaired MT instructors working at four CTEs in Amhara and SNNPR regions.

Accommodate students with hearing and vision impairments in MT classrooms

To test and demonstrate how children with disabilities can be accommodated in regular classrooms using the new MT curriculum, READ TA designed an Assistive Technology Capacity Building Initiative (ATCBI) in line with the activity's objective of improving reading and writing for all children in mainstream Ethiopian classrooms. The initiative supported students with vision or hearing impairment in participating Grade 2 classrooms by providing accommodated instructional resources to their teachers. Teachers used instructionally accommodated TGs loaded onto smartphones to teach MT classes. The TGs also contained multimedia content, notably audio files for all phonemic awareness and story activities in the lesson. The ATCBI pilot successfully demonstrated to the MOE and RSEBs how modest technology and content can be used to support teachers to better accommodate students with special needs.

3 ACTIVITY ACCOMPLISHMENTS

3.1 Progress Towards Activity Objectives and Intermediate Results

As outlined earlier, Ethiopia's education system was very successful in increasing access to primary education, with enrollment numbers increasing remarkably in just a few years. However, the quality of education, notably in early reading and writing, remained low, strained by the growing numbers of students in classrooms. USAID, in collaboration with the MOE, developed a new, comprehensive, and ambitious 5-year program, READ, in response to this situation. READ comprised four complementary projects that operated to provide four key types of expertise and support to the MOE:

²JAWS is a computer screen reader program for Microsoft Windows that allows blind and visually impaired users to access the content by having it read to them.

1. READ Technical Assistance: Focused on improving MT curriculum for seven of the most widely spoken languages in Ethiopia.
2. READ Institutional Improvement (II): Focused on strengthening the capacity of the MOE to support teacher training that is grounded in international reading research and expertise.
3. READ Community Outreach (CO): Focused on building the capacity of communities and parents to develop a culture of reading outside of school.
4. READ Monitoring and Evaluation (M&E): Aimed at monitoring and evaluating student learning progress for the program at large.

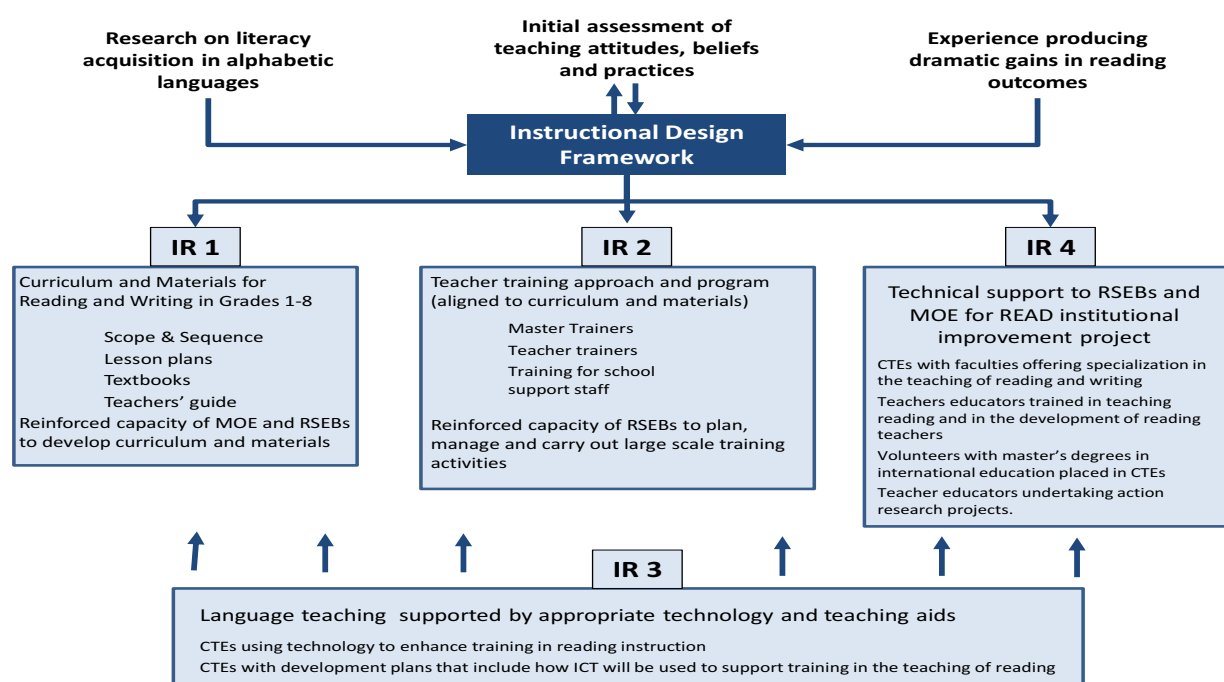
Working closely within the Ethiopian education system, the four READ projects combined aimed at improving the reading and writing performance of 15 million primary grade students in seven Ethiopian languages and English.

READ TA, as the largest of the four projects, was responsible for providing TA to the Ethiopian government in developing a revised reading and writing curriculum, curriculum materials, and improved reading and writing teaching methods for seven MTs and English. Being responsible for the foundational work, READ TA was a way to realize the broader objective of improving reading and writing performance of primary students in their MTs and English. Built on READ TA's foundations, the rest of the READ projects continue to play an equally important role towards the realization of the broader READ program objective.

READ TA was guided by a framework designed to achieve four intermediate results that fed into the overall READ program objective. The READ TA results framework (**Exhibit 2**), which was updated later in the activity, linked the four intermediate results and its activities with research and proven experiences from Ethiopia and the larger East Africa region in improving MT reading outcomes at scale.

READ TA's mandate did not include implementation of the revised curriculum at school level, M&E on student learning outcomes (other than the 2014 baseline EGRA in two languages), textbook printing and distribution (other than a contained print effort of 2.5 million books in Year 3), and school-level teacher training and support (other than providing grants to the MOE in Year 5 to train 113,000 teachers).

Exhibit 2. READ TA Design Framework



READ TA's instructional design framework was based on a body of knowledge derived from research, assessments, and proven experiences known to yield results for the improved reading and writing performance of students. Informed by this framework, READ TA provided full-scale TA to the Ethiopian Government to help transform primary-level MT and English curriculum and instruction. Details on the accomplishments across IRs over the life of the activity are presented below.

3.1.1 Intermediate result 1

Reading and Writing Materials Appropriate for Primary Classrooms and Pre-Service and In-Service Teacher Training Developed

READ TA takes pride in its achievement in developing appropriate reading and writing materials for primary classrooms. The READ TA team is also proud of the reading and writing materials it helped develop for in-service and pre-service teacher trainings (IRs 2 and 4).

Targeting seven widely-spoken MTs (Afaan Oromo, Af-Somali, Amharic, Hadiyyisa, Sidaamu Afoo, Tigrinya, and Wolayttatto), key milestones in developing appropriate reading and writing materials for primary classrooms included:

- Development of 112 quality and appropriate Grades 1–8 reading and writing curriculum materials in seven MTs for teachers and students in five regions of Ethiopia (Amhara, Oromia, SNNPR, Ethio-Somali, and Tigray).
- Adaptation of the Afaan Oromo, Af-Somali, and Amharic Grades 1–8 reading and writing curriculum materials (originally prepared for students in Oromia, Ethio-Somali, and Amhara regions, respectively) for students in seven other regions and two city administrations. This resulted in a total production of 192 additional Grades 1–8 adapted curriculum materials.
- Development of 16 Grades 1–8 English reading and writing curriculum materials for use nationwide.

Altogether, READ TA helped develop 304 MT and 16 English curriculum materials. The development of these materials was intensive and took the unrelenting effort, collaboration, and commitment of all parties involved. The curriculum processes were guided by international best practices and assessment of existing local language teaching practices that, together, contributed to the quality and appropriateness of the developed materials.

The development of the curriculum materials was also instrumental in building local capacity in this sector. Working through and in close partnership with the MOE and RSEBs, READ TA mobilized more than 200 local experts and professionals from local institutions by engaging them in intensive workshops. All materials were directly developed by these local MT curriculum development teams with TA by READ TA staff and consultants. This process took time and funding, but the involvement of as these experts ensured local ownership and the appropriateness of the materials for the context and language. All materials were quality assured, reviewed and validated by MT task forces and MOE, RSEB, and CTE experts.

READ TA activities that led to the achievement of the three key milestones outlined above are discussed under each milestone below. Other activities that were not part of READ TA's mandate, but accomplished following USAID and/or MOE special requests, are also discussed.

Development of 112 Grades 1–8 curriculum materials in seven MTs

Despite a slow activity start-up, resulting from a lengthy registration process with ChSA, READ TA commenced its curriculum revision work during Year 1. The first set of 56 Grades 1–4 MT curriculum materials were submitted to the MOE in Year 2, followed by submission of the set of 56 Grades 5–8 MT materials in Year 3. Activities that led to these accomplishments are described below.

Revision of the National MT Syllabi for Grades 1–8

Revision of the Grades 1–8 MT curriculum started with the establishment of a national-level MT curriculum revision task group. The members of the task group were MOE experts (language, curriculum, teacher development program, special education needs, and gender), RSEB/ZED MT and curriculum experts, READ TA/RTI (central office members, international consultants, and seven national language speaking consultants in the seven target languages), and consultants from SIL LEAD. The task group reviewed the national syllabi for teaching mother tongue in Grades 1–8, including minimum learning competencies and the flowcharts for Grades 1–8, to find gaps in the reading curriculum, including content, pedagogy, and assessment. The findings of this review indicated the need to revise the existing national syllabi for the MTs. Therefore, the national MT syllabus for Grade 1–8 was revised by the same task group in two phases. Initially, the task group revised the Grades 1–4 syllabus and later the Grades 5–8 syllabus. The revised versions focused on reading skills and was written so that it could be adapted to each language in Ethiopia. It was then translated into Amharic, the national working language of Ethiopia. Finally, the revised national MT syllabus (in English and Amharic) for Grades 1–4 and Grades 5–8 was validated and approved at the national level by the MOE and RSEBs.

Adaptation of the Grades 1–8 National MT Syllabus to Seven Languages

Following development of the MT syllabus, READ TA led the adaptation of the national syllabus to the seven target languages. To adapt the national syllabus to the seven MTs, READ TA identified and engaged language consultants who received READ TA's technical support to identify elements of the national syllabus that should be adapted or further specified for their language. MT taskforces for each of the seven languages were also organized at regional or zonal levels. The regional taskforces consisted of appropriate personnel from RSEBs and ZEDs who could adapt the national MT syllabus to the requirements of the specific language. With support from READ TA experts and language consultants, the task forces adapted the Grades 1–4 and Grades 5–8 national MT syllabus to the activity's seven MTs.

Development of scope and sequence for Grades 1–8 curriculum in seven MTs

A scope and sequence shows what skills or content should be taught and in what order, the breadth and depth of the content, and its progression within one grade and across multiple grades. The development of a scope and sequence is among the steps in the MT curriculum development that served as a bridge between the syllabus and curriculum materials, and what READ TA introduced in curriculum materials development for the first time in Ethiopia.

The development of a scope and sequence for the seven MTs happened separately for Grades 1–4 and Grades 5–8. READ TA first conducted curriculum materials development for Grades 1–4 in Years 1 and 2, while the Grades 5–8 curriculum materials were developed in Year 3.

Development of the Grades 1–4 scope and sequence began with training MT curriculum experts and language/linguistics consultants from each of the seven MTs (who had also supported the adaptation of the national MT syllabus) on core principles and approaches for scope-and-sequence development. This included training them on PrimerPro, a software program developed by SIL, which allows for linguistic analysis of each MT to inform the scope and sequence for curriculum materials development. For example, the software was used to determine the frequency of letter words to identify and generate appropriate words for story development. In addition, a training on WeSay software was provided for word-listing assistants (two for each of the seven languages). The assistants were contracted to develop a database of 4,000+ primary-level words in their language for use in material development.

With support of READ TA experts, the regional task forces, organized during syllabus adaptation, used the information from PrimerPro and information about their own language to develop a scope and sequence for Grades 1–4. The same process was repeated for Grades 5–8 in Year 3. The validations of the scopes and sequences were carried out by RSEB and ZED officials for each target language and subsequently used for materials development.

Development of Grades 1–8 SBs and TGs in seven MTs

After developing language-specific syllabi and scope and sequences, READ TA supported the development of SBs and TGs for each language and grade. Development of the Grades 5–8 materials followed a similar process. The specific activities that resulted in the development of the SBs and TGs for Grades 1–4 included the following:

Preparing READ TA staff, consultants, and experts for support

MOE, RSEB, and ZED MT experts; national and international consultants; and READ TA staff providing support to curriculum materials development were prepared for the task before engaging in actual work. A total of 33 people participated in a 5-day preparation workshop, which included agreeing on the approach, identifying facilitation roles and responsibilities within each regional and language team, and drafting presentations and materials for the regional language-specific material development workshops. A draft knowledge kit was shared with participants, which included a revised MT syllabus, minimum learning competencies (MLCs) and flowchart, Reading Fundamentals Guide, Language and Reading Guide, and a Scope-and-Sequence Implementation Guide. Participants were given a presentation package that included the presentations, Basic Principles of Reading and Writing; Language and Reading; the Revised MT Syllabus: Why and what; and Scope and Sequence: Why, what, and how.

Organizing Mother Tongue Curriculum Development (MTCD) teams

READ TA collaborated with RSEBs and ZEDs to select members for the MTCD teams. A total of seven teams were organized—one per MT. READ TA provided the criteria, while RSEBs and ZEDs selected the participants. A team was composed of 15–18 members. Each team consisted of text writers, lesson developers, language specialists, quality assurance, designers, illustrators, layout designers, and typists. Regional/zonal mother tongue curriculum experts served as team leaders and worked in close collaboration with language consultants, READ TA reading and curriculum specialists, and G&IE advisers.

Working through pre-defined workflows, each MTCD included lesson development, pre-production, and quality assurance sub-teams. The lesson development team was responsible for developing grade-level lessons and were composed of a language specialist/editor, lesson writer/teacher, and story writer. The pre-production team, comprising an illustrator, layout specialist, and typist, was responsible for getting the books into the final layout. Finally, the quality assurance team ensured that all materials were written according to agreed spelling rules and the scope and sequences for the different grades. To develop four grades at the same time, READ TA had one lesson development sub-team per grade, in addition to the cross-cutting functions.

MTCD teams' capacity building

To ensure that MTCD teams are well equipped with the knowledge and understanding required to develop revised curriculum materials based on the revised MT syllabus and scope and sequence, MTCD teams were instructed via workshops, trainings, on-the-job coaching and mentoring, and consultative meetings. The content of these sessions focused on the following:

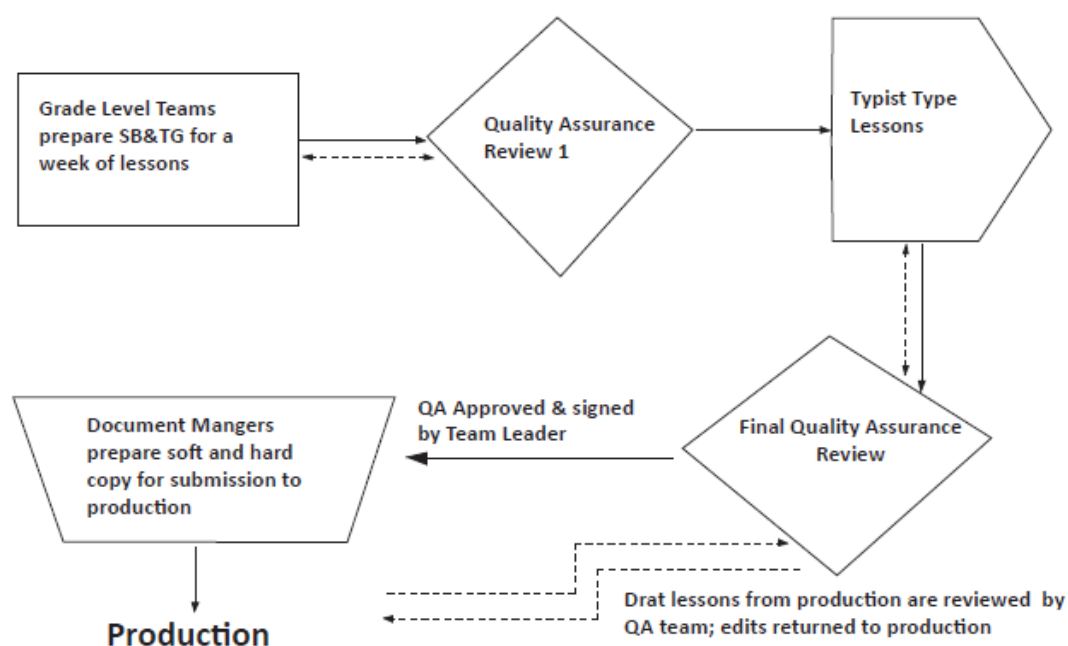
- How to use different tools, such as the syllabus, scope and sequence, and activity banks
- Components of reading and writing
- Writing activities and texts
- G&I issues
- How to type, design, and illustrate materials

Most notably, the Grades 1–4 MTCD teams (a total of 82 people) received a 5-day training early in Year 2 that helped teams understand the materials development and production process work-flow; comprehend team and individual roles and responsibilities in the materials development and production process; develop knowledge and skills to fulfill their roles in the materials development and production process; and refine technical knowledge and skills to ensure lessons were of high quality. Templates for the SBs and TGs were introduced to the teams followed by participatory activities for practice.

Development of SB and TG lessons

After curriculum materials development training, each MTCD team developed lessons following an established workflow (**Exhibit 3**), using SB and TG templates. To ensure the quality of materials developed, the MTCD process involved review and, as needed, recommendations for revisions using appropriate checklists; the quality assurance team; MTCD team leader; MT taskforce; and READ TA technical specialists for gender, inclusion, curriculum and reading.

Exhibit 3. Grades I–4 Curriculum Materials Development Workflow



Field Testing of SB and TG Lessons

Following development of SB and TG content by MTCD teams, READ TA field tested the Grades I–4 materials developed in the seven MTs. Through trained data collectors, the field test gathered information about the suitability and usability of the SBs and TGs in 35 schools across the five regions. Teachers in the 35 schools were provided with the developed lessons and trained on the approaches and methods of the revised curriculum materials.

READ TA shared feedback from the field test with the MTCD teams, which used the feedback to improve the curriculum materials by adjusting some lessons, illustrations, instructions, and lay out. Lessons from the field test also informed MTCD teams to consider the teachers’ feedback on the materials when later developing the teacher training manual content and approach.

Review and validation of SBs and TGs

As part of assuring the quality of curriculum materials developed in the seven MTs, READ TA worked hard to engage regional MT taskforces in reviewing curriculum materials. Hence, while developing the Grades I–4 curriculum materials, regional taskforces, as well as MOE, RSEB, and ZED representatives, reviewed respective MT SBs and TGs and provided comments. Their comments were reviewed by the quality assurance team members of the respective MTs and relevant comments were incorporated by the MTCD teams.

Validation of the Grades I–4 SBs and TGs was conducted following the MT taskforce review and revision of the curriculum materials. Representatives from the MOE, RSEBs, ZEDs, and community representatives (e.g., religious, political, and cultural leaders) performed a final review of the Grade I–4 MT materials and provided feedback that was also incorporated by MTCD teams. Finally, regional taskforces verified the incorporation of all comments and approved the curriculum materials.

Submission of final curriculum materials

The 56 Grades I–4 curriculum materials in the seven MTs were finalized towards the end of Year 2 and submitted to the MOE for use in primary schools and submitted as print-ready soft copies to RSEBs, the MOE, and USAID.

The development of Grades 5–8 curriculum materials followed a similar process as the Grades 1–4 materials. It involved organizing MT curriculum development teams, building initial capacity for the teams, developing SBs and TGs, field testing developed lessons, taskforces reviewing and validating draft SBs and TGs, and submitting the final 56 Grades 5–8 books. There were a few differences in the development of Grades 5–8 curriculum materials. For example, for Grades 1–4, reading and writing skills are taught and reinforced directly and systematically and skills are developed and practiced by students, together and individually, each day. However, in Grades 5–8, the emphasis shifts from basic skill development to application of reading, writing, listening, and speaking skills to learn subject matter across all subject areas. Therefore, for Grades 5–8 activity banks were collected for all reading/writing components. Moreover, content resources were collected prior to curriculum materials development to facilitate the more comprehensive story writing efforts in higher grades.

Adaptation of Grades 1–8 Curriculum Materials for other Regions/City Administrations (Afaan Oromo, Af-Somali, and Amharic)

As an add-on to READ TA's original mandate, a key milestone that fed into the achievement of IR 1 was the adaptation of Grades 1–8 student books developed for Amhara, Oromia, and Ethio-Somali regions for students with the same MTs in other regions of Ethiopia.

The rational for adapting curriculum materials to other regions

The original MT books for the seven MTs were prepared with strict reference to the learners' environments (i.e., regions), where the languages were dominantly spoken. However, Afaan Oromo, Af-Somali, and Amharic are also spoken as MTs outside the main regions of the activity. Afaan Oromo is spoken as an MT in three different regions: Amhara, Dire Dawa, and Harari; Af-Somali in one region (Dire Dawa); and Amharic in nearly all administrative regions except Tigray and Ethio Somali. Therefore, it was necessary to adapt the lesson materials to these other regions in culturally and contextually relevant ways.

Planning the adaptation process

Following finalization of the Grades 1–4 SBs and TGs, READ TA conducted an adaptation workshop with the MOE, RSEBs, and city administrations of the adapting regions. The workshop participants deliberated on and agreed on the relevance of the MT SBs (Grades 1–4) in Amharic, Afaan Oromo, and Af-Somali to students outside of the main regions that they were originally developed for. The workshop also helped determine the extent of adaptation and a design strategy to undertake the necessary adaptations. A follow up consultative meeting early in Year 3 with the MOE and RSEBs further outlined precise directions to the adaptation of the curriculum materials and resulted in selection of language-specific adaptation teams and creation of an adaptation schedule.

Training of adaptation teams

READ TA trained 120 experts from Addis Ababa, Afar, Amhara, Benishangul-Gumuz, Dire Dawa, Gambella, Harari, Oromia, and SNNPR regions who were selected to be members of adaptation teams for the reworking of Af-Somali, Afaan Oromo, and Amharic Grades 1–4 SBs and TGs for their respective regions. The main objective of the training was to familiarize the adaptation team members with the READ TA reading and curriculum approach, help them identify key features of the new MT lesson books, and build their capacity for adapting the textbooks. The teams were also oriented on G&IE considerations in curriculum materials development.

Adaptation of curriculum materials

The 12 adaptation teams for the nine adapting regions comprised one teacher and one language specialist for each grade level. Moreover, each language team had one language expert from RSEBs and a team leader designated for each region. Following the training, adaptation teams first reviewed the materials to determine the types and breadth of changes that needed to be made. Areas for adaptation included

- Illustrations (i.e., for cultural relevance)
- Language (i.e., dialect)
- Places (important if the experts thought that it reduced a students' ability to understand or connect with the text)
- Narration and discourses (considered in terms of value and tradition of the student's community)
- Relevance to regional policy, if any.

Based on this initial review, the teams, with READ TA, developed a work plan for the adaptation process. During the adaptation process, teams painstakingly reviewed each lesson, identified changes that they felt needed to be made, and classified changes as major or minor, as follows:

- Major changes: Entailed changing a significant amount of text and/or illustrations, such as replacing a story, moving content, or changing or adding lesson activities. These were all considered significant because they would involve the support of typists, illustrators, and designers.
- Minor changes: Small-scale editing, such as replacing a vocabulary word or name or changing the spelling of a word. These changes were considered small because they could be easily done by a designer.

Once the changes had been identified, they were routed according to their category. Minor changes could be indicated directly in the book copy while major changes were indicated on a separate page and were submitted to a typist and, sometimes, an illustrator. After the changes were made, they too would go to the designer. Once changes had been inserted by the designer, they were reviewed by the respective adaptation team to ensure that changes had been made correctly.

Throughout the process, MOE experts reviewed, monitored, and checked the quality of the modified texts for their language appropriateness, text length, and grade appropriateness, i.e., the correct depth for developing appropriate comprehension lessons and strategies that could properly contribute to grade level cognitive development or critical thinking.

The end of the adaptation work resulted in 96 Grades 1–4 Amharic, Afaan Oromo, and Af-Somali SBs and TGs for 12 language communities located in seven regions and two city administrations.

Review and validation of adapted curriculum materials

Validation teams composed of language experts and curriculum experts from the adapting regions and the MOE reviewed and approved the adapted versions of the curriculum materials. The validation process included a brief presentation to the validation teams on the adaptation process, the purpose and focus of the validation, and introduction of the validation checklist and protocol.

Submission of final copies of Grades 1–8 adapted Amharic, Afaan Oromo, and Af-Somali curriculum materials

Following the review and validation of the curriculum materials, comments and recommendations from the RSEBs were incorporated into the adapted materials; language experts signed off on the final copies of the textbooks. The final, print-ready copies of all 96 adapted Grades 1–4 books were submitted to the MOE, RSEBs, and USAID in Year 3.

The adaptation of Grades 5–8 Amharic, Afaan Oromo, and Af-Somali curriculum materials followed similar processes as the Grades 1–4 materials. The process involved language-specific adaptation teams, initial capacity building for the teams, adaptation of the curriculum materials, review and validation of the adapted curriculum materials, and submission of final print-ready copies (i.e., 96 Grades 5–8 adapted books). Grades 5–8 curriculum materials teams were limited to localizing the content in the MT materials to respective regional contexts because students should be encouraged to progressively learn about wider national and global realities as they grow older. Therefore, curriculum materials in Grades 5–8 were not localized unless there was a pressing reason.

Development of 16 Grades 1–8 English Curriculum Materials

READ TA began work in Year 3 on the improvement of the English primary grades curriculum materials. To know what was lacking in the existing English curriculum materials, the READ TA team conducted a comprehensive situation analysis on the effectiveness of the existing materials. Work towards improving English curriculum materials was based on insight from the situation analysis. Despite a slow MOE approval to pursue the revision of English curriculum materials, READ TA successfully provided technical support to the MOE and RSEBs in revising the English curriculum materials that were submitted in Year 5. Activities that led to these accomplishments are described below.

Conduct an English Situation Analysis for Grades 1–8 English curriculum

To begin work on conducting the Grades 1–8 English curriculum situation analysis, READ TA initially worked to reach a common understanding with the MOE. With initial terms of reference and a concept note, the READ TA team conducted the English Situation Analysis (ESA). The overall task comprised a field study and a desk study. The field study was designed to collect both qualitative and quantitative data from 75 randomly sampled Ethiopian primary schools, while the desk study reviewed available materials and literature on the English curriculum in Ethiopia.

For the ESA, READ TA selected and trained data collectors, collected and analyzed data, and produced a draft report. The desk study for the ESA was led by international short-term technical assistance from READ TA/SIL LEAD and was conducted in collaboration with four MOE representatives and three READ TA technical specialists. The desk study team finalized preparation of tools for the desk study; reviewed available literature on English as a second language materials; evaluated the syllabus, flowchart, and current English materials; drafted conclusions and recommendations; and prepared a draft report. The desk study and field study were consolidated into a draft ESA report and validated by relevant MOE experts and directors, CTE English lecturers, and READ TA staff.

Recommendations from the ESA suggested determining the English language acquisition goals (MLCs or higher) for each grade level so that students are successful in meeting these goals and in being prepared for the transition from English as a subject to English as the language of instruction. Additional recommendations included the following:

- Revise the English language curriculum for Grades 1–8, beginning with a focus on building oral language skills and communication, with a gradual transition to skill building in using English for academic purposes.
- Ensure that the progression (pacing) of vocabulary in the syllabi and materials align with what is known about vocabulary acquisition in similar contexts to Ethiopia.
- The syllabi and materials clearly indicate the progression and sequence of higher level thinking skills. The syllabi need clear competences and suggested content for the development of these skills.
- Ensure that the syllabi consider that a transition to English as a medium of instruction is occurring at different grade levels across regions.

The validated report was subsequently disseminated to a larger audience, including RSEB heads, MOE and CTE representatives, and organizations working on English and MT education improvement.

Develop a plan for providing technical support for English

Following submission to the MOE of the final ESA report in Q2, fiscal year 2015/2016, READ TA waited for direction from the MOE on how to proceed with the report's recommendations. Approval came late in Year 4 to go ahead with planning technical support for English. READ TA prepared a draft plan that was reviewed and validated late in Year 4 by MOE, RSEBs, and READ TA/RTI staff.

Revise Grades 1–12 English curriculum documents

READ TA's initial mandate was working in Grades 1–8 for both MT and English. However, to analyze and evaluate the suitability and progressive sequence of English curricula from pre-primary education through Grade 12, the MOE requested READ TA to also undertake a review and revision of the pre-primary and Grades 9–12 curriculum materials. Hence READ TA supported the revision of pre-primary, Grades 1–8, and Grades 9–12 English curricula materials.

The revision of the pre-primary and Grades 1–8 curriculum documents were conducted early in Year 5 by English experts representing the MOE and the 11 regions of Ethiopia. The revision of the pre-primary English curriculum was informed by a desk study conducted prior to the revision of the curriculum. The revision teams were, typically, composed of grade-level teachers, English experts, and curriculum experts from the MOE and the 11 regions. Before engaging in the revision activity, the team received training on READ TA's experience in MT curriculum development, curriculum approaches in language teaching, and elements of curriculum revision, which included introduction of the curriculum revision tools. Later, the workshop participants revised the pre-primary and Grades 1–8 syllabi, MLCs, and flow chart. In addition, participants developed a content map for Grades 1–8.

In preparation for revising the Grades 9–12 English curriculum, the READ TA team conducted desk reviews of Grades 9–12 curriculum materials using review guiding questions. Finally, the team produced a desk study report that outlined specific recommendations in revising the Grades 9–12 English curriculum. READ TA also supported a field study that was led by the MOE. The field study examined the current implementation of the Grades 9–12 English curriculum materials in schools and complemented the Grades 9–12 desk study report. Following the studies, READ TA revised the syllabus, MLCs, and flow chart for Grades 9–12 English curriculum.

The revision of the syllabi, MLCs, and content for both pre-primary, Grades 1–8, and Grades 9–12 was an iterative process that revision teams collaborated on, refining revised curriculum documents. The workshop consultants closely supported revision teams, providing guidance and feedback throughout the process. After the workshop, the consultants reviewed and edited the revised curriculum documents, which were eventually validated by a quality assurance team composed of MOE experts. The validation also involved curriculum process owners and representatives of the 11 RSEBs.

Develop scope and sequence for Grades 1–8 English curriculum

READ TA supported the development of a scope and sequence for Grades 1–8 English curriculum. Two local English consultants led the scope-and-sequence development workshop, which took place in two phases, with the support of expert assistance from RTI's home office. The workshop participants included language experts, curriculum experts, and grade-level teachers representing the MOE and the 11 regions, who were also part of the review and revision of the curriculum documents.

The Grades 1–8 scope and sequence was developed based on the syllabus for the same level and using templates shared with participants. It was later reviewed by relevant MOE and RSEB experts. Following the review, the curriculum development team incorporated relevant comments given by the review team and the document was made ready to guide the Grades 1–8 English SB and TG development. Although the scope-and-sequence document was made ready for use in the curriculum materials development process, it was developed as a working document to be refined throughout the materials development process.

Review and refinement of revised Grades 1–8 English curriculum documents

Following revision of the Grades 1–8 English curriculum, the revised curriculum was validated and, subsequently, used to revise the Grades 1–8 SBs and TGs. READ TA, however, had conducted a review and refinement of the Grades 1–8 curriculum documents even after validation and subsequent use in material development. The refinements were necessary to reconcile changes that arose during the development of the curriculum materials and called for inclusion in the curriculum

documents. Hence, the review and refinement of the Grades 1–8 English curriculum documents were conducted twice after the curriculum materials were fully developed.

Developing Grades 1–8 English curriculum materials: SBs and TGs

The development of the revised Grades 1–8 English SBs and TGs went through a series of steps. First, experts invited to be involved in the curriculum development were oriented through practical training. They were later assigned to grade-level teams with specific roles based on their qualifications and experience. The grade-level teams then started developing lessons with support from a quality assurance team, lead consultants, designers, illustrators, and typists. After developing a few lessons, the new content was field-tested at schools and feedback from these field tests was used to improve and guide the revision work. The revision work followed established processes that ensured a rigorous feedback system and quality assurance. The revision of the Grades 1–8 English SBs and TGs was completed successfully when the revision teams submitted 16 signed-off hard copies of draft, revised Grades 1–8 English SBs and TGs (including soft copies) to READ TA. READ TA engaged native English speakers as proofreaders and, later, proceeded with the final production of the draft books for validation. Activities that contributed to the revision of the Grades 1–8 English curriculum materials are as follows:

Orientation training for Grades 1–8 curriculum revision team

Based on a validated plan of action outlined for English curriculum materials development, experts (who were selected by the MOE and RSEBs through READ TA-agreed upon criteria) were provided a 4-day orientation. The orientation equipped revision team members with the templates and layout to be used in developing SBs and TGs. Moreover, team members were introduced to the process to be followed to ensure alignment of the SBs and TGs with the finalized scope and sequence and syllabus. Other presentations given during the training also helped teams be sensitive to inclusive education, children's learning development, and learning assessments. Before proceeding to the actual development work, team members were given time to exercise the development of SB and TG contents using the introduced templates.

Grade-level team formation and establishing a revision process

The actual SB and TG development work started with the assignment of grade-level team members based on qualifications and roles assigned to each team in all eight grades. Each grade-level revision team contained between four and six members, including a text writer, lesson writer, editor, and a quality checker. There was also a quality assurance team that reviewed drafts from the grade-level lesson development teams and provided feedback, as well as discussing critical issues within teams. Typists, graphic designers, and illustrators worked to support grade level teams, while three lead consultants supported the overall development process. The revision process was also guided with various tools that included a SB and TG template, flowchart, and a daily status tracker sheet.

Close follow-up on progress of teams and corrective measures

There were differences in the pace and lesson quality produced by grade-level teams. Hence, the READ TA technical experts and lead consultants assessed the capacity of each grade-level team and subsequently acted. This included the assignment of additional qualified experts and the replacement of a few team members. This replacement was done in consultation with the MOE and respective RSEBs of the outgoing team members. As a result, READ TA saw improvements in the pace and quality of the materials development.

Moreover, after the grade-level teams completed the material development work, Grade 1 and Grade 7 curriculum materials were further reviewed and revised by two quality assurance team members to address remaining concerns about book quality for those grade levels.

Proofreading and finalization of draft Grades 1–8 English SBs and TGs

As the books were revised by an Ethiopian team of experts for which English was a second language, the READ TA team engaged English native speakers to proofread all books and ensure

the quality of the revised materials. READ TA engaged three native English speakers who remotely proofread the draft books and provided comments on all books from Grades 1–8. The proofreaders mainly checked alignment of the SB and TG and the pedagogical aspects in the books. They also edited typographical errors, simplified instructions, provided comments on the design, and analyzed the readability of reading and listening texts, simplifying it when necessary.

Final review of draft Grades 1–8 English SBs and TGs

The final review of draft Grades 1–8 English SBs and TGs was conducted in a 2-week workshop. Finalization workshop participants included lesson and text writers from each of the grade-level teams and consultants who led the revision. During the final review, the draft books were reviewed for

- appropriateness of proofreaders' inputs, incorporated as appropriate;
- alignment between the scope and sequence and the SBs and TGs, corrected as needed;
- consistency within and across grade levels in terms of content presentation, language use, and formatting;
- appropriateness of illustrations, with changes made as necessary;
- G&I sensitivity, with changes made as necessary; and
- alignment with MOE formatting standards.

Meanwhile, the revised Grades 1–8 English materials—particularly the SBs—exceeded the usual MOE page number standards for curriculum materials. This was because the materials were revised to address gaps identified by the ESA, which indicated a need to give equal attention to all skills. Moreover, the revision focused on inclusion of some new language items, emphasized equipping students with necessary vocabulary and skills to use English as a medium of instruction in later grades, and considered alignment of English and MT in terms of content and approach. This required adding more content (e.g., vocabulary, reading, and writing practices) in context (via listening and reading texts). With an intent to provide additional support to students, four revision weeks were also included in the SBs, contributing to the large number of pages. READ TA worked with the MOE and agreed to compile the revised Grades 1–8 English books into two booklets each.

Field test lessons from the revised Grades 1–8 English curriculum materials

To get qualitative feedback on usability of the revised English SBs and TGs from students and teachers, READ TA field-tested draft lessons from the English SBs and TGs while under development. Two weeks of lessons were selected from the newly developed/revised SBs and TGs for each grade level and field tested at nine selected schools from Addis Ababa, Amhara, and Oromia regions. Feedback from the field test was shared with material development teams and was important to inform the revision process. Regarding specific grade levels and book sections, some of the recommendations suggested are as follows:

- ensure that lesson content can be covered within the allotted time,
- revise activities that are too demanding (e.g., post-reading activities),
- shorten reading and listening passages that are too long,
- minimize the steps described in TGs,
- avoid unnecessary redundancy, and
- provide brief notes on key language components that are new to or difficult for the teachers.

Subsequently, grade-level teams operationalized the recommendations by revisiting lessons that were already developed and incorporating the recommendations as they moved forward in lesson development.

Review and validate developed Grades 1–8 English curriculum materials

The SBs and TGs were validated by a team of experts representing RSEBs and the MOE using a validation checklist. The validation mainly focused on reviewing the books focusing on appropriateness of the materials in terms of content and approach, appropriateness of illustrations, gender sensitivity and inclusiveness, consistency across grades, and appropriateness of layout and formatting. After the validation workshop, the lead consultants and designers worked on final design issues and produced final print-ready copies split into two booklets per grade level.

Submission of final copies of Grades 1–8 English curriculum materials

After validation of the final Grades 1–8 English SBs and TGs, READ TA submitted to the MOE and USAID final print-ready soft and hard copies of the books (in two booklets per grade level) early in Year 6.

Additional Activities that Support Intermediate Result 1

In addition to providing technical assistance to the MOE and RSEBs in revising the Grades 1–8 curriculum materials in the seven MTs and English, READ TA also accomplished other activities that were not in its original mandate. These included printing curriculum materials, setting benchmarks for reading and writing scores, and providing technical assistance in the development of curriculum materials to languages other than the seven MTs. Details of these activities are presented below.

Print and distribute more than 2.5 million copies of 7 MT Grades 1–4 SBs and TGs to RSEBs in five target regions

On September 22, 2014, RTI was asked to apply for a total estimated cost increase to print SBs and TGs. RTI submitted its application planning to print 1.2 million book copies and USAID and RTI signed the modification on September 30, 2014. Following the modification, READ TA outsourced the printing of the books and managed to double the original number of copies within the original budget, resulting in more than 2.5 million copies of the new MT SBs and TGs. The books were distributed to respective RSEBs in Q2 (Oct–Dec) for use during the second semester of the 2014/15 academic year.

Print and distribute 45,959 copies of Grade 1–8 Af Somali SBs and TGs to two refugee camps hosting Somali refugees

Upon USAID's special request, READ TA trained Grades 1–8 Af Somali teachers working at schools in two refugee camps in the Ethio Somali region. READ TA also printed and distributed Tigrinya SBs and TGs to schools at the camps in collaboration with the Ethiopian Agency for Refugees and Returnee Affairs (ARRA).

Print and distribute 5,794 copies of Grade 1–8 Tigrinya SBs and TGs to four refugee camps hosting Eritrean refugees

Upon USAID's special request, READ TA trained Grades 1–8 Tigrinya teachers working at schools in four Tigray region refugee camps that host Eritrean refugees. Along with this training, READ TA also printed and distributed Tigrinya SBs and TGs to schools at the camps. In collaboration with ARRA, 5,759 SBs and 35 TGs were printed (in color) and distributed to the schools.

Conduct early grade reading (EGR) benchmarking workshop

READ TA supported the organization of a benchmarking workshop, which was funded under a separate Education Data for Decision Making (EdData) USAID task order. The workshop was held in Adama, January 30–31, 2015, and aimed to develop benchmarks for reading performance in the seven MTs. During the 2-day workshop, draft MT-specific EGR benchmarks for Grades 1–4 were discussed. The draft benchmarks were based on data from the previously conducted EGRA. The benchmarking workshop was attended by experts from the MOE and RSEBs. It was also attended by representatives from other nongovernmental organizations (NGOs) working to improve reading and writing instruction in Ethiopia.

Conduct EGRA for two SNNPR languages

READ TA originally had five IRs, but this was changed to four IRs in Year 2 based on instructions from USAID after the EGRA assignment was shifted to the separate USAID-funded READ M&E project. However, due to delays with awarding and onboarding READ M&E, in April 2014, USAID requested READ TA to conduct an EGRA baseline for two SNNPR languages: Hadiyyisa and Wolayttatto. This EGRA was done because Hadiyyisa and Wolayttatto had no previous EGRA information, unlike the other target languages. Despite an extremely short turnaround time, in June 2014, READ TA managed to (1) adapt EGRA to two entirely new languages; (2) identify, engage, and train more than 30 enumerators in its application; (3) pilot the instruments; (4) sample the schools; (5) organize the logistics; and (6) assess 2,000 students. This was made possible by the dedication and good collaboration between READ TA Addis Ababa-based staff, EGRA experts from RTI, READ TA's regional office staff in SNNPR, and the SNNPR RSEBs and ZEDs in the Wolayttatto and Hadiya zones. Following the EGRA, RTI conducted data analysis and produced a report, which was submitted to USAID in September 2014.

Provide technical support to Harari curriculum materials revision

Although READ TA's mandate for technical support was for seven widely spoken target languages, the READ TA team still committed to offer technical assistance, in the form of expertise, to curriculum development in other MTs.

Following the Harari region's request for technical assistance, READ TA assisted the region, starting with outlining a plan to develop curriculum materials in Harari MT. Based on the plan, READ TA deployed a team of experts to the region in three rounds. The first round delivered training support to the Harari RSEB experts, which aimed at equipping the trainees with practical skills in MT curriculum development. The second round comprised a follow-up visit to the RSEB to see how the team was progressing and utilizing the support in developing the primary curriculum materials. READ TA also deployed staff for a third round of technical assistance, which included reviewing sample lessons and providing feedback, including guidance on making stories culture sensitive, gender sensitive, inclusive, and focused on the theme of each specific unit. The team also provided guidance on checking the alignment of SBs and TGs and the proper use of the teaching approaches. During the third round of technical assistance visits, the READ TA support team also held discussions with the Harari MT curriculum development team members and the Harari RSEB on the progress of the revision work. Recommendations forwarded to the Harari RSEB included ensuring better coordination of the revision work, following activities of the curriculum development team closely, and finding a way to motivate revision team members.

3.1.2 Intermediate result 2

Language Specific Teaching and Learning Methodologies and Strategies that Focus on Helping Students Learn to Read and Write Effectively are Applied

READ TA's technical assistance to the MOE and RSEBs resulted in the development of appropriate and quality reading and writing materials for primary classrooms in seven MTs and English. However, the development of quality reading and writing materials needed to be complemented with technical assistance to the MOE and RSEBs to apply the methods and strategies embedded in the revised curriculum materials. To this end, READ TA assisted the MOE and RSEBs in training MT teachers in the seven MTs. The teacher trainings were carefully designed and successfully introduced the contents, organization, approaches, and methods of the revised Grades 1–8 reading and writing curriculum materials. READ TA also provided technical assistance in designing a MT teacher support system that proved successful during a pilot implementation. For English, the READ TA team successfully completed preparatory activities to help the MOE train primary English teachers after READ TA closes.

Targeting the seven activity MTs and English, key READ TA milestones that ensured application of language-specific teaching and learning methodologies/strategies to help students learn to read and write effectively included the following:

- Supported training of 176,394 Grades 1–8 MT teachers on the contents, organization, approaches, and methods of the revised MT reading and writing curriculum materials
- Developed recommendations for implementing the revised English curriculum
- Developed teacher training manuals and training English experts in preparation for introducing revised English curriculum materials
- Introduced a MT teachers mentoring approach and materials for Grades 1–8 teachers in the 7 MTs in the five target regions

Key to these milestones was READ TA's practice of basing its technical support endeavors on research. Early in Year 1, in preparation to develop strategies and materials for teacher training and support, READ TA assessed the current teaching methods, learning culture, and best practices in teaching reading and writing in Ethiopian primary schools. The assessment provided information that was important in extending meaningful technical assistance to the MOE and RSEBs in designing and implementing MT teacher training and support.

Capacity building to the MOE and RSEBs came as an indirect result from the READ TA team's efforts to support the MOE and RSEBs in introducing the methods and approaches of the revised MT curriculum to in-service teachers. Through the various trainings, orientations, and close work relationships with MOE and RSEB leaders/experts, READ TA built local government experts' capacity to plan, implement, monitor, and evaluate in-service teacher training and mentoring activities that were designed to assist and sustain teacher training and support.

READ TA activities that led to the success described above (i.e., revision of the MT curriculum materials, capacity building and technical support to MOE and RSEB) are detailed in the sections below. Other activities, which were not part of READ TA's original mandate but accomplished in collaboration with USAID and/or the MOE are also discussed below.

Train 176,394 Grades 1–8 MT teachers on the contents, organization, approaches, and methods of the revised Grades 1–8 MT curriculum materials

Introducing a new curriculum and materials in any subject calls for the training of teachers already working in schools. Hence, READ TA needed to support the MOE and RSEBs to introduce the contents, organization, approaches, and methods of the revised MT curriculum and materials for teachers who were already teaching the seven MTs in Grades 1–8. This required the following key activities:

- Development of training strategy
- Development of training materials
- Training master trainers and teacher trainers
- Support MT teacher trainings
- Training MT teachers from refugee camp schools (add-on activity)
- Grant management for the training of school teachers (add-on activity)

Accordingly, READ TA worked in close collaboration with the MOE, RSEBs, and CTEs to design a teacher training modality, develop appropriate teacher training materials, train master trainers and teacher trainers, and support the training of MT teachers from schools. Overall, READ TA technically assisted the MOE and RSEBs to train 176,394 Grades 1–8 MT teachers on the revised MT materials. This included planning TA for the training of 62,867 Grades 1–4 MT teachers in Year 3, which was directly funded by a grant from USAID to MOE under the READ Institutional Improvement project. READ TA technical assistance also included supporting the training of 113,385 Grades 1–8 MT teachers from the five target and seven adapting regions/city administrations through READ TA-administered grants to MOE. In addition, READ TA directly trained 142 Grades 1–8 Af-

Somali and Tigrinya teachers from two refugee camps in the Ethio Somali region, and four refugee camps in Tigray.

The training equipped MT teachers with the information and practice needed to apply improved reading and writing instruction at schools. Details on activities that led to the trained teachers in the seven MTs are below.

Design a teacher training strategy

Because of the need to train massive numbers of MT teachers from the seven MTs, READ TA followed a training cascade model to train MT teachers. The cascade model allowed the READ TA team to train as many teachers as possible with reasonable resources and, most importantly, time. READ TA proposed to conduct the teacher training in at least 2–3 sessions of 4–5 days each, with teachers receiving a total of 10 days of training over the course of one school year. Given the limited time available to train primary-level MT teachers and the urgency of introducing the revised curriculum materials to schools immediately after development, USAID and the MOE decided on a one-time 10-day cascaded training model. Hence, READ TA supported the MOE and RSEBs to train master trainers who then cascaded the training to teacher trainers. The teacher trainers in turn trained the teachers from the schools. To ensure training quality, training cascades were organized with the ratio of 1 trainer to 30 trainees.

The training of MT teachers was designed to be provided in two cycles: one cycle for Grades 1–4 teachers and one cycle for Grades 5–8 teachers. This allowed the READ TA team to design slightly different training materials that reflected the differences in content and methodology between the two sets of grades/materials.

Develop training materials for MT teachers

The development of training materials was a key step in providing appropriate and relevant training for teachers. Therefore, READ TA carefully developed separate teacher training manuals for Grades 1–4 and Grades 5–8 teachers. The development of the training manuals was preceded with a review of existing MT teacher training materials. The final Grades 1–4 MT Teachers Training Manual was developed towards the end of Year 2, right after completion of the Grades 1–4 MT curriculum materials. Similarly, the Grades 5–8 MT Teachers Training Manual was developed towards the end of Year 3, right after completion of the Grades 5–8 MT curriculum materials.

The teacher training manuals were first developed in English and later adapted to the seven MTs. This resulted in a total of 16 teacher training manuals developed for training MT teachers in five READ TA target regions: two English teacher training manuals (one for Grades 1–4 and one for Grades 5–8) and 14 adapted MT teacher training manuals (one manual per MT for Grades 1–4 and another one manual per MT for Grades 5–8).

Although READ TA originally revised Grades 1–8 MT curriculum materials targeting the main speakers of the seven MTs in the five regions of Ethiopia, Amharic, Afaan Oromo, and Af-Somali were also widely spoken in other regions in the country. Hence, READ TA further adapted the Amharic, Afaan Oromo, and Af-Somali curriculum materials for students in regions outside the five target regions. As this adaptation brought changes in the contents of the originally developed Grades 1–8 Amharic, Afaan Oromo, and Af-Somali curriculum materials, the teacher training manuals adapted for those three MTs had to reflect the changes in the curriculum materials. Consequently, READ TA adapted the Amharic, Afaan Oromo, and Af-Somali Grades 1–4 and Grades 5–8 teacher training manuals for 12 language communities. This resulted in 24 teacher training manuals adapted for 12 language communities in other regions (12 each for Grades 1–4 and Grades 5–8).

The development of the teacher training manuals involved various local and international experts and was conducted with heavy involvement of MOE and RSEB teacher training experts. The review and validation processes of the manuals were also conducted by relevant MOE and RSEB experts who were well informed about the revised Grades 1–8 MT curriculum materials. This collaborative undertaking pooled expertise that blended local and international practices of teacher training to ensure high-quality materials.

Specific steps that led to the development, adaptation, validation, and final production of the teacher training manuals in English and the MTs are below.

Develop English versions of the Grades 1–4 and 5–8 teacher training manuals

The English version of the teacher training manuals were developed by participants from READ TA, representatives from the MOE, and an international reading consultant during a 10-day teacher training manual development workshop organized by READ TA and MOE.

Validate the English version of Grades 1–4 and 5–8 teacher training manuals

After development of the English version of the manuals, representatives from the MOE and RSEBs reviewed and validated the manual in a 4-day workshop conducted in Addis Ababa. READ TA/RTI and SCI staff also participated in the validation workshop.

Revise English version of Grades 1–4 and 5–8 teacher training manuals after validation

After validation of the English version of the teacher training manuals was carried out by professionals from READ TA/RTI, READ TA/SCI, and the MOE, who incorporated comments and corrections obtained from the validation and then finalized the English version of the Grades 1–4 and 5–8 manuals.

Adapt English version Grades 1–4 and 5–8 teacher training manuals to seven MTs

The adaptation of the English version teacher training manuals to the seven MTs was carried out in adaptation workshops organized by READ TA and the MOE. A team of professionals from MOE directorates, READ TA staff, RSEBs and ZEDs heads and experts, CTE MT educators, and typists from seven MTs adapted the English version of the Grades 1–4 and Grades 5–8 teacher training manuals to each MT. A READ TA international reading expert led the adaptation activity in collaboration with READ TA technical staff.

Validate TTM with MT taskforces

The adapted versions of the manual were validated by representatives of each respective RSEB in a 3-day regional validation workshop held by the respective READ TA target regions.

Revise adapted TTMs

Following regional validation workshops, post-validation revision workshops were organized to incorporate feedback and comments gained during the validation. During this workshop, the adapted version of the manuals was approved by the respective regional taskforce members.

Final design work

The final design work of the manuals was conducted by READ TA/RTI. The READ TA team produced final print-ready copies of the manuals and submitted them to MOE, RSEBs, and USAID.

Because the training manuals were developed to prepare master trainers and teacher trainers to train teachers on how to implement the new SBs and TGs, the training manual makes frequent reference to the TGs and practice of the activities/lessons in the guide. The manuals show trainers how to activate participants' prior knowledge to address the purpose of the revised material, how to review principles of adult training, and how to lead participants through an overview of the structure of the revised TG. The manual also shows trainers how to introduce participants to the five components of reading and provides sample activities that teach individual skills under each component. The manual outlines a daily training schedule for the course of the workshop and structures training by the number of days of the workshop. A sample of the contents of the teacher training manuals is as follows:

- Introductions and Overview of Training
- Review of Mother Tongue Instruction

- Discussion of Ethiopian Mother Tongue Education System
- Introduction to the Teacher Guide
- Teacher Guide and Student Book Alignment
- Structure of Materials
- Lessons Sections
- Introduction Continuous Assessment, Support, and Enrichment
- Introduction to 5 Components of Reading
- Gradual Release Model (I do, We do, You do)
- Gender Responsive Teaching and Learning and Inclusive Education
- Teaching Aids
- Practice Teaching Different Skills

Train master trainers and teacher trainers

To introduce teachers to the revised MT curriculum materials, READ TA primarily trained master trainers and teacher trainers who in turn trained the actual teachers. The training of actual MT teachers from schools was the responsibility of the MOE and relevant RSEBs with government-to-government funding from USAID, constituting the READ Institutional Improvement project. This method was used for the first round of trainings for Grades 1–4 MT teachers in the five target regions. However, in trainings that happened after, READ TA was charged with an additional responsibility of disbursing teacher training funds to the MOE.

The training of master trainers and teacher trainers was a critical task to ensure that the revised curriculum materials were implemented as intended. Unless master trainers and teacher trainers were carefully selected, trained, and supported, the quality of cascade training would deteriorate. Hence, although READ TA had a well-prepared training manual, training the right people took additional effort. Training master trainers and teacher trainers was a demanding task that was accomplished in collaboration with the MOE and relevant RSEBs. Steps that signify READ TA's journey to get MT teachers trained are detailed below.

Determine the number of master trainers and teacher trainers

In consultation with USAID and in collaboration with the MOE and participating RSEBs, READ TA worked to determine the number of master trainers and teacher trainers to train Grades 1–4 and Grades 5–8 MT teachers in the five READ TA target regions and the other regions that adapted the curriculum materials. A trainer: teacher ratio of 1:30 was agreed upon as being both efficient and practical for this purpose.

Because the MT curriculum material development processes for the two sets of grades were completed at different times during the activity, the master trainers and teacher trainer training did not take place at the same time for Grades 1–4 and Grades 5–8.

To assist the process, READ TA developed data gathering formats that the MOE shared with RSEBs to determine the number of MT teachers in the regions. RSEBs used these templates to report teacher data to the MOE for aggregation and use in determining the number of master trainers and teacher trainers for each training round and language. There were significant delays in regions reporting their data to the MOE; further, data were also found to, at times, be inaccurate, which required intensive follow up. Nonetheless, READ TA worked with the MOE and RSEBs to ensure current and quality data was gathered to determine the right number of trainers to train. READ TA then worked with the MOE to optimize the number of master trainers and teacher trainers for each language and the MOE informed the regions accordingly.

Solicit an official request on readiness of RSEBs/CAEBs to rollout trainings

READ TA prepared the training of master trainers and teacher trainers based on receipt of an official request of the RSEB, which was channeled through the MOE. To mitigate the downsides that arise from cascaded trainings, such as drops in trainer knowledge because of extended gaps between training cascades, READ TA ensured that school teachers were trained as close as possible to the completion of the master trainers/teacher trainers trainings and beginning of the school year. Hence, READ TA made it a practice to ensure readiness of regions to rollout trainings in the revised MT curriculum. Readiness included printing and distribution of the revised SBs and TGs in the respective regions.

Select the right trainees as master trainers and teacher trainers

In collaboration with the MOE, READ TA set criteria to select the right master trainers and teacher trainers. The selection criteria focus on educational qualification (e.g., a bachelor's degree or higher in language studies, preferably the respective MT), work experience, training experience, and G&I work experience. The MOE shared the selection criteria with RSEBs/City Administration Education Offices (CAEBs), who then, based on the selection criteria, recruited the appropriate number of master trainers and teacher trainers from different organizations and institutions, such as CTEs, Zonal Education Offices (ZEOs), WEOs, CAEBs, and primary and secondary schools. Selected trainees were then notified of the training venues and dates.

Training preparations start with a concept note

To conduct quality trainings, READ TA prepared a concept note in consultation with the MOE. Based on the concept note, terms of references (TORs) were developed, which stated the specific objectives and budget breakdowns to conduct the trainings. Based on the TOR, READ TA assigned consultants as trainers. Other preparations, like registration and attendance sheets, payment sheets, and daily and final evaluation formats, were also conducted before training rollout. Additional preparations included selecting training venues and duplicating and transporting training manuals, training slides, banners, stationery materials, and SBs and TGs.

Deliver trainings

READ TA held trainings of Grades 1–4 and Grades 5–8 master trainers and teacher trainers for 10 consecutive days, respectively. The cascade of training is as follows: READ TA staff and experts train master trainers, master trainers train teacher trainers, and teacher trainers train primary school (Grades 1–8) MT teachers. The latter part of the training cascade was organized and led by the MOE and RSEBs. The training built on the content of the Grades 1–4 or Grades 5–8 teacher training manuals.

Following the steps described above, READ TA trained 103 master trainers and 2,474 teacher trainers. Although most of the trainers were trained to work with the MT teachers in the seven activity languages, a portion of the master trainers and teacher trainers were trained to work with MT teachers in regions that adapted the Amharic, Afaan Oromo, and Af-Somali curriculum materials. READ TA also trained MOE and RSEB teacher development program (TDP) experts to equip them with the information needed to support and monitor the large-scale teacher training rollouts in the regions.

As discussed earlier, READ TA trained master trainers for regions that demonstrated readiness to rollout trainings to school teachers. This practice was followed for all Grades 1–4 master trainers and teacher trainers' trainings. There were delays with the GQEP-financed and -procured printing of the Grades 5–8 curriculum materials for the five target regions. These delays were further compounded by READ TA approaching closeout before the books were printed and distributed. Thus, based on guidance from USAID, READ TA prioritized training Grades 1–4 teachers through its grants program. The READ TA team reached an agreement with the MOE that because READ TA trained Grades 5–8 master trainers and teacher trainers for the five target regions, the MOE will ensure the rollout of the Grades 5–8 MT teachers training at the school level in the five regions with its own (or other) sources of funding.

Support MT teacher trainings

The training of MT teachers from schools was originally the responsibility of the MOE and RSEBs by utilizing teacher training grants directly from USAID. Under this model, READ TA collaborated with the MOE and RSEBs to provide technical support during planning and trainings for an initial group of 64,000 Grades 1–4 school teachers. Support during planning included developing training evaluation checklists, assigning trainers, ensuring quality of training rooms with the standard number of trainees, and orientating teacher trainers. READ TA also provided technical support for RSEBs during actual rollout of teacher trainings. This was accomplished by the READ TA team deploying its technical teacher training staff and trained master trainers to training venues for practical, on-the-spot support. Almost all teacher trainings in the five target and nine adapting regions/city administrations were supported. The on-the-spot training support added another layer of training quality assurance, in addition to support from the MOE and respective RSEBs. This helped ensure MT teachers were properly introduced to the contents, methods, and approaches of the revised MT curriculum materials.

Grant management for the training of school teachers (add-on activity)

As noted earlier, during Year 4, USAID increased the READ TA scope of work and funding to include teacher training. The add-on specifically entailed issuing grants to the MOE to train remaining Grades 1–4 and Grades 5–8 teachers in the seven MTs on the revised reading and writing MT curriculum and approach.

READ TA successfully administered the issuance of teacher training grants working closely with the MOE and RSEBs. As teacher trainings were planned by the MOE in phases, following assurance of readiness of curriculum materials, the grants were issued phase by phase. In preparation for issuing grants, READ TA held consultations with relevant MOE and RSEB leaders from relevant regions/city administrations to jointly establish timelines, define roles and responsibilities, and clarify milestone expectations. Following these procedures, READ TA issued six teacher training grants in Years 4 and 5. The grants were issued through a Fixed Amount Award (FAA) modality. Upon MOE's accomplishment of the agreed upon milestone, READ TA would disburse an agreed percentage of the grant, verifying the milestone was met.

With a dedicated full-time Grants Manager hired for this purpose and, in collaboration with the READ TA M&E team, the READ TA team closely worked with the MOE to ensure milestones were met. Most importantly, the team monitored the training events organized by the MOE and RSEBs by training and deploying teacher training monitors checking for trainee numbers and training quality. A USAID-developed checklist, loaded onto tablets using the Tangerine® software application, was used to facilitate consistent monitoring and rapid data analysis. After verifying milestones expected at each phase of the trainings, READ TA transferred funds according to the stipulated payment schedule.

Overall, the six teacher training grants trained 113,385 (53,526 women) Grades 1–8 MT teachers from the five target regions (Amhara, Ethio-Somali, Oromia, SNNPR, and Tigray) and seven adapting regions/city administrations (Addis Ababa, Afar, Amhara, Oromia, Dire Dawa, Harari, and SNNPR) (see **Exhibit 4**). Compared with MOE plans for the number of teachers to be trained under each grant, MOE/RSEBs achieved a 98% match in the actual number of teachers trained and verified by READ TA. Overall, READ TA disbursed \$17,760,930 to the MOE following verification of accomplishment of agreed-upon milestones.

Exhibit 4. Total Number of Teachers Trained under READ TA-Administered Grants

Region	Language	Planned Number of Teacher Trainees	Actual Number of Teachers Trained Grades 1–4			Actual Number of Teachers Trained Grades 5–8			Actual Number of Teachers Trained Grades 1–8	% of Accomplishment
			Men	Women	Total	Men	Women	Total	Total	%
Oromia	Afaan Oromo	41,504	23,317	18,060	41,377	0	0	0	41,377	100%
	Amharic	6,625	1,786	1,908	3,694	1,385	1,112	2,497	6,191	93%
Tigray	Tigrinya	11,696	5,091	6,420	11,511	0	0	0	11,511	98%
Ethio-Somali	Af-Somali	5,619	4,672	931	5,603	0	0	0	5,603	100%
Addis Ababa	Amharic	3,924	614	1,688	2,302	502	904	1,406	3,708	94%
Amhara	Amharic	29,389	13,426	15,480	28,906	0	0	0	28,906	98%
	Afaan Oromo	2,497	940	636	1,576	552	269	821	2,397	96%
SNNPR	Amharic	8,327	1,892	2,450	4,342	1,743	1,522	3,265	7,607	91%
	Sidaamu Afoo	999	717	302	1,019	0	0	0	1,019	102%
	Hadiyyisa	610	345	262	607	0	0	0	607	100%
	Wolayttatto	2,068	1,418	637	2,055	0	0	0	2,055	99%
Afar	Amharic	1,107	391	211	602	229	110	339	941	85%
Dire Dawa	Amharic	286	47	125	172	57	61	118	290	101%
	Afaan Oromo	493	260	104	364	121	27	148	512	104%
	Af-Somali	197	68	25	93	50	9	59	152	77%
Harari	Amharic	262	65	75	140	34	88	122	262	100%
	Afaan Oromo	247	85	80	165	52	30	82	247	100%
All	7 MTs	115,850	55,134	49,394	104,528	4,725	4,132	8,857	113,385	98%

Training MT teachers from refugee camp schools (add-on activity)

In response to USAID's request to train MT teachers working at schools located in Ethiopian refugee camps, READ TA trained 142 MT teachers (11 women) from two refugee camps hosting Somalia refugees and four refugee camps hosting Eritrean refugees. The refugees in these camps used Af-Somali and Tigrinya MTs, for which READ TA had revised curriculum materials. Therefore, training these teachers in the revised curriculum materials was reasonable.

The trainings were conducted in collaboration with USAID, the MOE, Ethio-Somali and Tigray RSEBs, and ARRA. The MOE Mother Tongue and English Language Development (MTELD) Directorate and Ethio-Somali and Tigray RSEBs facilitated arrangements for previously trained teacher trainers in Af-Somali and Tigrinya MTs, ARRA handled venue arrangements and the selection of MT teachers from the refugee camps, and READ TA readied the trainers and books for these unique training circumstances.

Participating MT teachers were from Dolo Ado and Jijiga refugee camps hosting Somalia refugees in the Ethio-Somali region, and the Hitsats, Shimelba, May Ayni, and Adi Harush refugee camps hosting Eritrean refugees in the Tigray region. A 10-day training was provided for the MT teachers aimed at acquainting trainees with the revised MT curriculum to help them implement it in the refugee camps. The training was facilitated by previously-trained teacher trainers from Ethio-Somali and Tigray regions. The trainers used the READ TA developed teacher training manuals and training materials, including PowerPoint presentations, which were specifically tailored to meet the context of refugee schools.

Developing Teacher Training Manuals, Training English Experts, and Developing Implementation Recommendations in Preparation for Introducing Revised English Curriculum Materials

Following finalization of the revision of Grades 1–8 English curriculum materials, READ TA developed teacher training manuals to guide the in-service training of teachers on the revised English curriculum. READ TA also trained English experts who the MOE could hire in the future to cascade the trainings to primary English teachers. A general implementation recommendation document was also developed and shared with the MOE to guide the implementation of the revised primary English curriculum. Details on these achievements are described below.

Develop Teacher Training Manuals

Following finalization of the revision of Grades 1–8 English curriculum materials, READ TA developed teacher training manuals to guide the in-service training of teachers on the revised English curriculum. The in-service teacher training manual development for primary-level English was conducted after Year 5 at a workshop led by one international and two local consultants, who also led the Grades 1–8 English curriculum revision process. Representatives from the MOE and all RSEBs/CAEBs participated in developing the manuals. At the end of the workshop, two Grades 1–8 English teacher training manuals were developed: one for Grades 1–4 and the other for Grades 5–8. The content of the manuals was designed to be completed in 10 training days. However, by taking lessons learned from the MT curriculum teacher training, the manuals were developed so that the MOE or RSEBs could divide the contents into a series of short trainings. To facilitate this, recommendations on how to divide the TTM content for shorter and more spaced trainings were included in both the Grades 1–4 and Grades 5–8 English teacher training manuals.

After the development of the teacher training manuals was completed, MOE and RSEB representatives validated the Grades 1–4 and Grades 5–8 manuals with the support of a validation checklist that was used to record feedback. The manuals were subsequently improved using feedback collected from the validation team. Following validation, the international consultant, who led the manual development activity, conducted final proofreading of the validated teacher training manuals. Finally, the Grades 1–4 and Grades 5–8 English teacher training manuals were submitted to the MOE in July 2017.

Training English expert trainers

To train teachers on the revised Grades 1–8 English curriculum, READ TA trained expert trainers that the MOE could utilize in the future when it is ready to train actual primary school English teachers. As this activity was contingent upon the MOE's readiness to rollout the training with its own funding, READ TA's role was limited to training these experts.

The MOE collected data on the numbers of primary school English teachers in the regions and set regional quotas for English expert trainers to train from each region/city administration. Regions were given the respective quota and criteria to select trainees. The 11 regions/city administrations consequently selected English expert trainers who cascaded trainings on the revised Grades 1–8 English curriculum to trainers of trainers and then to primary English school teachers in their respective regions.

RSEBs/CAEBs selected English expert trainers from schools, CTEs, and universities based on the following selection criteria:

- A Bachelor's degree or above in English language teaching
- Experience in English language teaching at primary/secondary schools, CTEs, or universities
- Experience as an English language teacher trainer (preferably training primary school teachers)
- Familiar with principles/practices of teaching English as a foreign language in primary schools
- Good training facilitation skills along with English proficiency
- Commitment to serve the MOE/respective RSEB as a trainer

The English expert trainers training was preceded by a 2-day preparation activity. Six local consultant trainers, who also led the revision of the Grades 1–8 English curriculum, prepared the training agenda and training materials based on the Grades 1–4 and Grades 5–8 teacher training manuals. Following the consultant trainers' preparations, the English experts' training was conducted for 10 days. A total of 77 English experts were trained for Grades 1–4, while 43 experts were trained for Grades 5–8. All 11 regions/city administrations sent trainees based on the MOE-shared quota, except Harari, which did not send English expert for Grades 1–4. The training was also attended by 5 (1 woman) MTELD Directorate experts who would support the cascade trainings. The six consultant trainers then facilitated the training for groups of trainees in five training halls.

Participants were introduced to the contents, approaches, strategies, and organization of the revised Grades 1–8 English SBs and TGs. The training was practical and participatory—each training session began with brief theoretical inputs from trainers followed by practical activities, lesson demonstrations, and reflective activities. Specific contents of the training included

- contents, approaches, methods, and organization of the revised English SBs and TGs;
- G&I issues; and
- assessment of the students' performance.

During the training, participants received hard copies of training materials, which included PowerPoint presentations and manuals. Trainees were well prepared to cascade the training to teacher-trainers. READ TA sent the list of the trained English experts to MOE in soft copy for its future reference.

Develop implementation recommendations

One of the plans and accomplishments for Year 5 was to produce a recommendation document on how to effectively implement the revised Grades 1–8 English curriculum materials. This document focused on forwarding recommendations on what the MOE and RSEBs can do to promote the effective implementation of the curriculum. The recommendations revolved around issues related to book printing and distribution; the provision of supplementary reading materials (SRMs) and

audio/video materials; teacher training; ongoing teacher support; awareness creation for school leaders, supervisors, and others; and monitoring, follow-up, and support.

Introducing MT Teachers Mentoring Approach and Materials for Seven MT Grades 1–8 Teachers in the Five Target Regions

READ TA identified teacher mentoring as a continuous professional development model to provide teacher support in primary schools. Subsequently, the READ TA team collaborated with the MOE and RSEBs to develop a MT teacher mentoring framework and a mentoring manual as essential elements to the long-term success of in-service MT teacher professional development, as well as the successful implementation of the revised MT curriculum. The mentoring framework and manual were pilot tested in selected schools from the activity's five target regions. Lessons learned from the implementation were summarized and shared with the MOE and RSEBs in a 1-day consultation and pilot report.

Preparatory activities that transitioned READ TA's teacher mentoring support plan to implementation began toward the end of Year 3 through recruitment of a local consultancy firm that was tasked with supporting the MOE and RSEBs in the development of a MT teacher mentoring approach and related manual. Although a local consultancy firm started preparatory work in Year 3, the actual mentoring approach and manual development activity was conducted in Year 4. However, the mentoring approach and manual developed were not launched at schools right after development, as they were pending the MOE's approval. In Year 5, READ TA held consultations with the MOE on the developed materials and solicited the Ministry's decision to implement MT mentoring as a pilot. This decision was followed by training of mentor trainers and mentors and conducting baseline and, later, endline data collection for the pilot in the five regions. The series of activities involved in developing the MT teacher mentoring approach include the following:

- Initial discussion with the MOE
- Development of MT teachers mentoring framework
- Development of MT teachers mentoring manual
- Discussion on mentoring approach/framework
- Training of mentor trainers
- Training of mentors
- Pilot implementation of the MT teachers mentoring framework and manual
- Data analysis, report preparation, consultation, and dissemination

Initial discussion with the MOE

In preparation to develop materials for MT teachers mentoring, READ TA held initial discussions with MOE officials, specifically with the Director for Teachers and Educational Leaders Development Directorate and the Coordinator for the In-service Case Team. The discussion helped all parties reach an understanding on the need to prepare a MT teacher mentoring framework and mentoring manual. Following the discussion, TORs were developed by READ TA to guide the development, adaptation, and validation of the mentoring framework and manual. After MOE approval of the TOR, READ TA identified local consultants and mobilized RTI consultants to support the development of the MT teachers mentoring framework and manual.

Develop MT teachers mentoring framework

The effective implementation of the teacher mentoring approach depends not only on the resources available but also on the understanding and commitment of various stakeholders. The mentoring framework was designed through the involvement of MOE and RSEB experts and directors, READ TA central and regional staff, RTI consultants, and local consultants. The development took place in two workshops during which participants deliberated and drafted the contents of the framework. The draft framework was reviewed and validated in a subsequent workshop, after which local

consultants revised the documents. The mentoring framework was a result of these collaborative activities and shared understandings among stakeholders. The final English version was adapted into the seven MTs. The adapted manuals passed validation and adaptation processes before they were used for training in the pilot.

The mentoring framework set explicit directions on the rationale, objectives, and nature of MT teachers mentoring and how it should be implemented at schools. The framework provided specific guidance to the following school personnel:

- Teachers (mentors and mentees) on objectives, processes, and mentoring practice in MTs.
- Principals/deputy principals on what the framework is, how it should be practiced, and what is expected of the mentoring program to provide support and conduct built-in school supervision.
- Cluster supervisors on how to provide instructional leadership and support for cluster schools.
- Teacher development experts, curriculum professionals, and educational leaders across various levels of the education system.

Development of MT teachers mentoring manual

After drafting the mentoring framework/approach, READ TA/SCI organized a 15-day mentoring manual development workshop. The consultant team led participants from the MOE, RSEBs, CAEBs, CTEs, and universities to actively engage in all aspects of the approach and manual development work that ended in the production of a draft mentoring manual in English. The consultants then refined, reworked, and edited the draft manual and submitted it to READ TA. The READ TA team then solicited and incorporated comments from stakeholders, including the MOE and USAID to improve the draft manual.

The draft English version of the manual was validated by participants from the MOE (MT and English, TDP, and Curriculum Directorates), TDPs from five RSEBs, and primary schools MT teachers from the respective regions. The draft English version of the framework and manuals were shared with the MOE for further comments and suggestions. After receiving this feedback, the consultants refined both documents accordingly. The MOE then organized a short briefing on the framework and manual. The consultants summarized the approach and clarified concerns and the MOE then approved the mentoring manual for adaptation into the seven MTs.

The adaptation of the English manual into seven MTs was carried out by READ TA technical experts in the five Regions, MOE experts from various directorates, RSEB TDP experts, and CTE MT lecturers. The local consultants who supported the development of the English version manual also supported the adaptation activity in collaboration with READ TA's central technical team. The seven adapted MT teachers mentoring manuals were validated and approved by the respective Mother Tongue Task Forces in regionally held workshops.

Overall, the MT teachers mentoring manual intended to facilitate co-learning in Ethiopian schools through peer observation and conversation/dialogue. As the manual is a guide for practicing mentoring, it included theoretical issues, practical techniques, and formats to guide mentors' actions. The manual is organized in three chapters: the first chapter provides ideas about the rationale, objectives and beneficiaries of the MT teachers mentoring manual; chapter two deals with the notion of mentoring (i.e., what it is and is not and principles and practices of mentoring); and the third chapter describes the nature of the new MT curriculum and the practical skills required for effective mentoring of MT teachers.

Discussion on implementation of developed mentoring framework/manual

Following validation of the adapted seven MT versions of the mentoring manual, READ TA held discussions and with regional taskforce members and RSEB officials to implement the approach with a few agreed-upon modifications. Similarly, discussions were conducted on mentoring with the MOE

state minister, MT and English Language Directorate Director, and other MOE experts who proposed piloting the mentoring manual for Grades 1–4 before full-scale implementation.

Based on these discussions, READ TA, in collaboration with the MOE and RSEBs, planned and implemented a pilot of the MT teacher mentoring approach in primary schools in five of the activity's target regions in the seven MTs.

Training of mentor trainers and mentors

Towards the end of Year 5, the MOE and five RSEBs agreed to pilot MT teacher mentoring at 125 selected schools in the five regions to learn if and how the mentoring approach and manual can be implemented at scale. READ TA trained mentor trainers to cascade training to mentors from the 125 pilot schools.

A 5-day training was provided for 21 Grades 1–4 mentor trainers, selected from CTEs and RSEBs in the five regions. Local consultants who were involved in the development of the MT mentoring manual and framework conducted the training, primarily employing the manuals as a training resource. The training focused on the concept of mentoring, global experience on mentoring, and mentoring approaches and techniques at schools. Trainees also had the opportunity to practice mentoring at nearby primary schools in Addis Ababa. The training involved school directors, supervisors, and education experts at all levels to build their capacity for future support in implementing mentoring at schools.

Training of mentors

Following mentor trainers training, READ TA trained 317 mentors (170 women) from pilot schools in the five target regions in regionally held 5-day trainings. School principals; supervisors; and RSEB, ZED, and WEO experts of pilot schools also took part in the trainings to help support the implementation of the pilot. Trained mentor trainers facilitated the regional trainings with support from READ TA staff. Mentors were selected to meet a mentor-mentee ratio of 1:5 at schools; hence, the required number of mentors from respective regions sampled schools were selected based on 1:5 (mentor-mentee ratio) and training was planned following the selection criteria set forth in the mentoring manual. Training focused on the concept of mentoring, mentoring approaches, and techniques in a school setting. Mentors received copies of the mentoring manual and framework during the training.

Pilot implementation of the MT teachers mentoring framework and manual

READ TA, in collaboration with RSEBs, conducted the mentoring pilot at 125 primary schools in the five READ TA target regions. Mentoring baseline and endline assessments were conducted in 39 of the primary schools selected from the 125 sample schools. The READ TA team produced and disseminated a baseline result report for the MOE and RSEBs. Before conducting endline data collection, monitoring of the MT mentoring implementation was conducted in the pilot schools and the monitoring report was shared with the MOE. Finally, READ TA/SCI, in collaboration with RSEBs, collected the pilot endline and produced an endline report. The endline assessment report was shared and further discussed in a 1-day consultative meeting with the MOE and RSEB representatives from Amhara and SNNPR early in Year 6.

The endline report underscored the noteworthy changes detected between baseline and endline, especially about the beliefs regarding the importance of mentoring, as well as practices at the school level associated with mentoring (e.g., holding discussions, creating portfolios, and reporting to the school director/principal). The endline report also stated that the mentoring program should be considered for scale up with the assumption that the following concerns and challenges are considered.

Lack of capacity or support: Mentors require additional training to strengthen their content knowledge and pedagogical practices related to the MT curriculum implementation. Hence, additional training and support needs to be provided to MT teachers. The purpose should be aimed at improving their teaching methods to share with mentees.

Workload: The challenge of high teacher workload was most frequently noted by pilot participants. Although, at endline, participants noted that their workload had decreased, likely because they realized the benefits of the activity. Nevertheless, workload challenges persisted and influenced other aspects, especially the ratio of mentors to mentees. A key lesson learned included finding ways of reducing teacher workload, e.g., by decreasing the mentor-mentee ratio, by minimizing the teaching load or by lessening their participation in other clubs and activities at the school.

3.1.3 Intermediate result 3

Language Teaching and Learning Supported by Appropriate Technology and Teaching Aids

The revision of the MT curriculum materials set forth an adequate basis for improving reading and writing instruction at primary schools. However, additional technology and teaching aid inputs could further enhance literacy acquisition, demonstrate how technology promote and support improved teaching and learning, and provide tools that further the goals of inclusive education by helping overcome the barriers to participation and learning faced by children with special needs. Hence, READ TA worked hard to support MT teaching and learning with technology that were practical in the Ethiopian context and explicitly linked to the educational and pedagogical objectives inherent in implementation of the revised MT curriculum. Specifically, READ TA demonstrated success in the following areas:

- Support pre-service MT teachers training with technology and multimedia content, especially for strengthening phonemic awareness (Papaya and audio companion)
- Develop and provide CTE instructor and MOE/RSEB access to model teacher videos
- Produce television cartoon episodes supporting early grade reading and writing
- Distribute English supplementary books
- Build capacity for school cluster library coordinators
- Introduce assistive technology in MT instruction for students with visual and hearing impairment
- Integrate ICT to support READ TA activities (e.g., Bloom, PrimerPro, WeSay, Tangerine), especially in building local writers' capacity to write grade-appropriate children's books
- Provide technical assistance for other READ projects in developing supplementary reading materials and teaching aids

Detailed descriptions of these achievements are provided below.

Support Pre-Service MT Teachers Training with Technology and Multimedia Content (including Model Teacher Videos, Audio Companion, and Papaya)

With an overall goal of supporting pre-service MT teachers training with technology and content resources that add value to the quality of MT teachers training, READ TA collaboratively identified, deployed, and supported optimum utilization of technology and content resources for reading and writing instruction at CTEs. Referred to as the "READ MT package", the technology and content resources were developed with an overall goal of enabling CTE MT lecturers to better model and explain good reading instruction techniques according to a revised pre-service MT curriculum, which aligns with and references the revised Grades 1–8 MT curriculum materials. The READ MT package demonstrated success in transforming CTE MT instruction (see **Annex A**, for a success story on the contribution of the package for improved CTE MT instruction).

Specific activities that were involved in supporting pre-service MT teachers training with technology and multimedia content include the following.

ICT baseline assessment at CTEs, SCCs, and satellite primary schools

To inform activities, READ TA conducted a CTE, SCC, and satellite primary school ICT baseline assessment at nine CTEs, eight SCCs, and 14 satellite primary schools in Ethiopia in Year 1. READ TA also held a follow-on 2-day comprehensive consultation with MOE, RSEB, and CTE representatives in November 2013. These activities gave the READ TA team a general idea on the available technology and multimedia resources and their use at CTEs, which allowed for exploration of the potential for READ TA to maximize the use of existing applications, resources, and equipment rather than provide new ones.

Desk review of technologies and technology applications for reading and writing instruction

Following the finalization of the baseline assessment and consultations, an international and national review was conducted by READ TA on good practices and examples of technologies and technology applications for reading and writing instruction in MT and the READ TA curriculum development approach at the core of the revised Grades 1–8 national curriculum and materials. Findings fall into two main categories: content (multimedia resources and software applications) and access to content (technology devices hosting this content). The desk review helped identify potential content resources and technology devices. Although icon- and touch-based interfaces of tablet devices were identified as best options for hosting content, specific content resources identified in the desk review included

- auditory supports to the instruction of phonological awareness,
- video as critical visual and auditory support in teacher professional development and instruction,
- module guides for key lecture components with embedded video and reference materials, and
- targeted software/applications for reading and writing instruction, particularly for learners with special needs.

National ICT showcase with stakeholders to plan READ TA's ICT initiatives

Following the desk review, in April 2014, READ TA organized a national ICT showcase providing an opportunity for READ stakeholders to come together and openly discuss, engage, and collaborate on planning for READ TA's technology initiatives. The showcase featured demonstrations and hands-on engagement with a range of technologies and applications with the potential to support reading and writing in MT, including for learners with special needs. Seventy-five participants from READ TA, 24 CTEs, 6 RSEBs, and the MOE (including the MOE's center for ICT, Curriculum Development and Implementation Directorate, Teachers and Educational Readers Development Directorate, and Special Support and Inclusive Education Directorate) attended the showcase. A range of national initiatives were represented, including technologies and applications shared, such as phonics applications, student assessment applications, multimedia teacher guide applications, classroom simulation applications, television (TV)-based educational videos, compact disk (CD)-based teacher development content, optical character recognition devices and application, rapid visual sight testing applications, text to speech applications, a range of projection devices (including specifically low-energy devices), tablet devices, content servers, and speakers.

Discussion with five RSEBs on supplementary resources and technologies

Immediately following the national ICT showcase, representatives from all five READ RSEB partners participated in detailed discussions on the supplementary resources and technologies to be considered under IR 3 and related READ TA activities appropriate for each region. Participants included RSEB ICT heads/officers that attended the showcase. The discussions centered on the detailed package, total cost of ownership, related capacity building needs, and technical support to the package. Ultimately, RSEBs and CTEs decided on the package for their region.

Regional ICT consultations

Regional 2-day ICT consultations took place in July 2014 at all five RSEBs, during which time detailed presentations, hands-on demonstrations, and training on all selected items of the proposed CTE MT package were done and final comments were collected from CTEs and RSEBs. Discussions and agreements on the CTE and RSEB capacity building approach and CTE/RSEB/READ TA technical support plan was also completed. READ TA selected and demonstrated the selected package technologies for reading instruction, which included Papaya (phonological awareness application), model videos, audio companion files, tablets, document camera, and content server.

The regional ICT consultations served as a platform to further elaborate and validate feedback from the national ICT showcase, discuss contents of ICT packages for each CTE, and solicit feedback from RSEBs on implementation modalities and sustainability. A total of 100 participants (7 women) attended the regional consultations and included regional curriculum development and implementation core process owners, regional curriculum development and implementation case managers, RSEB ICT experts, CTE deans, CTE ICT experts, and CTE heads of MT instruction

Approval of proposed CTE MT package

Following the regional ICT consultations, READ TA received CTE MT package validation and approval and final item numbers from all five regions. The READ TA team developed a summary overview on the process and nature of the CTE MT package with a focus on the evidence base for the proposed applications, as well as considerations for capacity building, technical support, and sustainability. Following another round of consultations with the MOE and USAID, READ TA proceeded to procurement. Content resources to the approved CTE MT package consisted of

- Papaya, a phonological awareness application;
- audio companion with recordings of key blending, segmenting, and student and teacher read-aloud lesson components for all Grades 1 and 2 lessons;
- a model video library;
- pre-service curriculum materials development under READ TA;
- Grades 1–8 SBs and TGs developed under READ TA; and
- additional reference materials, as appropriate.

Approved technology items to deliver the content included tablets for each MT lecturer and a content server, projector, document camera, and a set of speakers for each CTE.

Prepare for deployment of the READ MT package

To launch the READ MT package at CTEs, the READ TA team underwent preparations to ensure all package content were procured and finalized and that CTEs were ready to onboard the package. Specific READ TA preparations to the deployment of the READ MT package are discussed below.

Conduct CTE site assessments

Upon receipt of validation letters from the MOE on the RSEB CTE ICT package, READ TA conducted CTE site assessments at 35 CTEs and 9 RSEBs. These assessments aimed to clarify CTE-specific needs for the proposed equipment; their willingness and ability to support the package; and opportunities for additional discussion on capacity building, sustainability, and technical support. RSEBs were requested to make their ICT Officers available to jointly implement the site assessments together with the READ TA team. Instruments were developed to guide the CTE site assessments, as well as to guide conversations with RSEBs, about their ability to provide the specified technical support. The site survey report provided valuable information on each CTE, categorizing each CTE based on their level of readiness for ICT package installation and outlining preparatory work needed at each facility prior to package installation. READ TA used information from the site survey report to plan and prepare for the actual installation of the package at respective locations.

Procure validated equipment

READ TA procured the technology items through an international procurement that cleared Ethiopia's customs in quarter (Q)I, Year 4. The procured items included tablets, projectors, miracast wireless video adapter, speakers, content servers, tablet protective cases and covers, bags/enclosures, connectivity cables, and converter cables.

Develop user and technical manuals on installation and use of the package

In addition to finalizing the procurement of equipment, READ TA developed two user manuals, a technical manual prepared for ICT officers and an end-user manual prepared for MT instructors.

Finalize development of model teacher videos and recording of audio companion

Multimedia content for the READ MT package included Papaya, model teacher videos, and audio companion files. Before deployment of the package to CTEs, READ TA ensured that model teacher videos and audio companions were ready for distribution in all the seven MTs. Details on the development of the model teacher videos and audio companion files are discussed in a separate subsection below.

Pre-deployment consultation with RSEBs and CTEs

Prior to installation of the technology package at CTEs, READ TA organized targeted ICT package sustainability and implementation planning workshops. Two workshops were conducted, one for CTE and RSEB representatives invited from the five READ TA target regions and another for non-target regions. The workshops aimed to establish a clear understanding of the READ TA ICT package implementation plan and strategy, the proposed support and maintenance plan, total cost of ownership considerations, and collaboration sought from RSEBs and CTEs for implementation. The consultative workshops resulted in reaching an agreement between the CTEs, RSEBs, and the MOE in the form of a signed memorandum of understanding (MOU) to work collaboratively to implement and sustain the ICT package. The MOU helped define the roles and responsibilities of the RSEB administration staff, RSEB ICT heads, CTE deans, CTE ICT Officers, and MT instructors on the use and sustainability of the ICT package.

Install the READ MT package at CTEs and RSEBs

During Year 4, Q2, READ TA successfully installed and deployed the MT package at 36 CTEs in all regions (except Dire Dawa, which is not READ TA's target for CTEs, as the region did not have a CTE until recently) and provided additional MT package items to RSEBs in 10 regions. READ TA followed an installation procedure that included installation of the package at CTE data centers and reserved MT classrooms; installation and configuration of the READ TA MT instructional resources on the technology package; provision of hands-on and on-location training to RSEB and CTE ICT Officers on installation and configuration of the ICT equipment and READ TA's MT content resources; and training of MT instructors, CTE deans and vice deans, and ICT focal persons on how to use the MT ICT package.

At the end of the installation, all 36 CTEs were equipped with a full set of technology items and contents. Network infrastructure that ensured wireless access to MT content resources on the MT server were also installed at all the 36 CTEs.

Build capacity for MOE, RSEB, and CTEs on the READ MT package

MOE and RSEB ICT Officers: Prior to the deployment of the READ MT package to CTEs, READ TA led a 3-day workshop for RSEB and MOE ICT Officers to build their initial capacity to support the MT package. The training was provided to a total of 40 participants (7 women) from the MOE and nine RSEBs. The training equipped the MOE and RSEB ICT Officers with hands-on experience that enabled them to technically support the implementation of the READ MT package at different levels. Apart from the 3-day training, the RSEB ICT experts accompanied installation teams at CTEs technically supporting the installation teams.

CTE ICT Officers (initial training): CTE ICT Officers were initially trained while the ICT package installation activity took place at CTEs. The training had two phases where initial capacity was built for 42 (3 women) CTE ICT officers. First, Officers attended a half-day training along with CTE instructors and deans on the READ MT package contents and technology. The second training was a practical, hands-on session they received while assisting the READ TA installation teams in their respective CTEs.

CTE ICT Officers (intensive training): CTE ICT Officers received additional intensive training to ensure their sustained support for the package. Hence, intensive 3-day trainings were provided primarily for CTE ICT Officers/Technicians from 34 CTEs. A total of 74 (9 women) participants attended the trainings; five were from the MOE. Other attendees included CTE participants, two vice deans, and six MT instructors. The trainings helped improve the theoretical and technical understanding of CTE ICT personnel on the use and maintenance of the READ MT package so that CTE ICT Officers can sustainably provide support of the package to MT instructors.

CTE leadership and MT instructors: READ TA built the initial capacity for CTE leadership and MT instructors in a half-day session organized after finalization of installation work at each CTE. During the training sessions, 41 (all men) CTE leadership and 194 (45 women) MT instructors were trained. Moreover, 42 (3 women) CTE ICT officers were also trained alongside the CTE leaders and instructors. Content of the training sessions included a presentation on the use of technology in education, introduction of the READ TA MT content resources and the ICT package items, demonstration on how to use the ICT package and contents, and participants' individual practice in using the package. Apart from the training session, CTEs were also provided with copies of the CTE MT package end-user manuals.

MT instructors (follow-on training): A few weeks after the finalization of the ICT package installation at CTEs, all CTE MT instructors at the 36 CTEs traveled to Addis Ababa for a training on pre-service Module 4. READ TA conducted a 1-day training to further familiarize CTE MT instructors with the technology package and MT content resources. The training, apart from refreshing MT instructors' skill in using the technology and package contents, opened a platform to share challenges, lessons, and resolutions among participant MT instructors. A total of 205 (51 women) CTE instructors took part in the training. Moreover, four MOE (two women) and four RSEB MT experts were part of the training.

Ongoing technical support for the READ MT package

To successfully implement any ICT solution, it is crucial to ensure that users are supported with ongoing technical support. READ TA developed the support plan and system requirements necessary for successful implementation of technical support. A three-tiered support system was put in place to ensure rapid support to end users of the MT package.

- At the CTE level, CTE ICT officers provide Tier 1 support. READ TA built the capacity for CTE ICT Officers and provided a technical manual with practical troubleshooting instructions, tips, and lessons for each CTE.
- At the regional level, RSEB ICT Officers offer Tier 2 support. Capacity has been built for RSEB ICT Officers to prepare them for the support.
- At the national level, READ TA partner in ICT, Invaneo, offers Tier 3 support from Addis Ababa and with scheduled maintenance visits to RSEBs and CTEs.

At every level, a ticketing system was implemented through a Fresh Desk platform to easily monitor issues and create a knowledge base. Systematic reporting was also implemented, which ensured unresolved technical issues that occur at the CTE (Tier 1) level are escalated to the next tier for support.

As part of the ongoing support at the Tier 3 level, READ TA conducted two scheduled maintenance visits at RSEBs and CTEs, supported the READ MT package through provision of hands-on training to CTE and RSEB ICT officers, and resolved issues that were not addressed in Tiers 1 or 2.

Review the READ MT package for use, maintenance, and sustainability

READ TA conducted two rounds of maintenance visits after installation of the READ MT package at CTEs and RSEBs. Data from READ TA's first maintenance visit (conducted in Year 4) was used to inform the review of the MT package. The data were used during a consultation workshop organized in Year 5, Q2, to discuss the sustainability of the READ MT package with MOE, RSEBs, and CTEs. During the consultative workshop, the maintenance visit report was accepted by each RSEB and CTE and support plans were drafted toward the goal of sustaining the MT package after activity end.

The second maintenance visit to CTEs (conducted in Year 5) also helped obtain important information to review the READ MT package for use, maintenance, and sustainability. The second maintenance visit findings suggested that usage of the READ MT package by CTE MT instructors was very strong and that collaboration and support between CTE ICT officers and MT instructors had improved. However, the report also indicated a lack of coordination between the college administration, ICT Officers, and MT instructors in some CTEs, which inhibited the effective and consistent use of the MT package for MT instruction. The report found that the coordination was an issue because of administrative or technical staff turnover.

Procure additional ICT package equipment

During Year 5, READ TA had plans to procure additional ICT equipment to support MT curriculum implementation at CTEs, especially where MT faculties expanded. Hence, READ TA set a precondition for each CTE to demonstrate their commitment to ensure the sustainability of the MT package. However, sufficient assurance was not obtained from the CTEs. Therefore, it was difficult for READ TA to go ahead with the procurement of the additional ICT equipment without ensuring the commitment of the CTEs and RSEBs. However, because it was important to address spare needs of the READ MT package, READ TA procured and distributed spare items for critical equipment to sustain the package. The procurement of the spare parts was performed internationally after careful assessment of the local market. The internationally procured technology items included a HDMI video adapter converter, document camera, hard drive (3 TB-SATA 6Gb/s, USB 3.0-hard drive-3 TB), high speed HDMI cable, and HDMI wireless display adapter for Miracast devices. The distribution of the procured equipment to CTEs was conducted in Year 6 at all CTEs.

The distribution of the additional ICT equipment to all CTEs was also an opportunity to distribute updated versions of the READ MT package through a hard drive that included updated reading and writing instructional resources, including final versions of pre-service course modules and videos.

Provide laptops with JAWS software for visually impaired CTE MT instructors

The READ MT package was an important technology and content resource for CTE MT instructors. However, there were CTE MT instructors with severe visual impairments who had difficulty using the tablet technology. In Year 5, READ TA procured and provided laptops with JAWS software to accommodate the needs of five (four women) MT instructors working at four CTEs in Amhara and SNNPR regions.

Develop model teacher videos

READ TA's technology and teaching aid support for in-service and pre-service MT teacher trainings included model teacher videos that demonstrated teaching key MT teaching skills. The model videos were prepared to serve as resources for the pre-service MT lecturers and in large-scale in-service teachers' trainings to introduce the revised primary MT curriculum. The videos formed a model video library, providing CTE instructors access to video-based models of key instructional routines found in the new TGs.

Featuring key MT reading and writing teaching skills, READ TA produced 145 Grades 1–4 and 90 Grades 5–8 model teacher videos in seven MTs. The development of the videos was scheduled in two phases based on the grade level bands of 1–4 and 5–8, which happened during Years 3 and 4, respectively. The videos were part of the READ MT package that was distributed to all 36 CTEs and integrated within the contents of the pre-service MT course modules, as appropriate. The model

teacher videos are valuable technology-based resources that demonstrate success in transforming MT classrooms at CTEs. MT instructors repeatedly mentioned the usefulness of the videos during trainings and interviews, explaining that some language teaching skills are better demonstrated than taught directly.

The development of the model teacher videos was a rigorous task that was led by RTI's partner, WKW. The MOE and relevant RSEB and CTE experts collaborated with READ TA technical staff in the development of the videos. Specific steps that led to the development of the videos are below.

Identify MT language skill to model in the videos and develop video scripts

For Grades 1–4 model teacher videos development in Year 3, scripts were developed with the technical leadership of READ TA/WKW and involved MT experts from the seven MTs. READ TA ended up with 21 skills to feature in the Grades 1–4 model teacher videos. While developing Grades 5–8 model videos, READ TA initially developed 15 English scripts, each emphasizing a specific reading and writing skill and how to teach the skill.

The scripts were developed by the READ TA technical team, Reading and Curriculum (R&C) Specialist, and MT consultants. The English scripts were later reviewed by three international consultants and subsequently improved. Selected seven MT experts from the MOE, RSEBs, ZEDs, and CTEs then adapted the English scripts to their respective MTs. During adaptation, teams selected only those video scripts that were relevant for their respective MTs.

Review and validation of the adapted MT versions of the scripts was done by the respective regional MTTFs. Ensuring that review feedback was incorporated, READ TA solicited post-validation letters from respective MTTFs for each language to proceed with filming.

Film videos in regional/MT context

With a strong conviction to produce quality model videos that demonstrate teaching reading and writing skills in MTs, model teachers, schools, and students were selected carefully and in consultation with the READ TA regional offices and the RSEBs and ZEDs of respective regions. The selected model teachers were provided with scripts in advance to allow sufficient preparation and rehearsal time. READ TA also had a procedure and checklist that helped production teams and the READ TA R&C Specialists review each video before leaving the filming locations.

To minimize model students' time out of school, filming in the regions was conducted on the weekends, i.e., from Friday to Monday. The production teams were successful in coordinating and finalizing filming on location, as scheduled. Teams also made basic edits while they were still at those locations in case there were conditions that required re-filming. The on-location basic edit enabled the READ TA R&C Specialists to check if recorded videos were aligned with corresponding scripts, if there was accurate pronunciation, and if the text on blackboards was spelled correctly. Following filming in the regions, READ TA/WKW conducted post-filming editing of the videos and prepared the videos for validation.

A total of 272 Grades 1–4 and 90 Grades 5–8 MT model teacher videos were filmed in the five regions during Year 2 and Year 4, respectively. The Grades 5–8 filming process built on lessons learned from the Grades 1–4 process and was, thus, possible to implement more effectively. For the Grades 1–4 videos, the regional taskforces rejected many of the videos upon review which meant the READ TA team had to re-film the videos with improved processes and scripts. Before the re-filming, READ TA conducted test filming to see if the improved processes worked well. In the end, 145 Grades 1–4 model teacher videos were filmed. Learning from the Grades 1–4 video filming, READ TA provided basic orientation to all parties involved in the Grades 5–8 model teacher videos, including READ TA R&C Specialists; RSEB MT, curriculum, and ICT representatives; model teachers; and MOE representatives.

Review and validate model teacher videos

With an intent to ensure the appropriateness, quality, and consistency of model videos and their alignment to the final curriculum materials, READ TA organized review and validation workshops for the Grades 1–4 and the Grades 5–8 videos.

The Grades 1–4 model videos review and validation was conducted twice as the first validation identified the need to rework many of the videos filmed in Year 2. In Year 3, after re-filming the videos, READ TA organized a second review and validation workshop. Master trainers, R&C experts, CTE MT instructors, gender specialists, editors, and language assistants participated in the review and validation workshop. Checklists were used to facilitate a discussion, solicit comments from workshop participants, and capture feedback.

Before validation of the Grades 5–8 videos by regional MT taskforces, READ TA R&C Specialists reviewed the edited Grades 5–8 model teacher videos to fix issues and ensure proper placement of texts, spellings, and the technicality of the videos. Participants from the MOE, RSEBs, and READ TA R&C Specialists worked on respective MT videos to provide validation comments also using the validation checklist. Having verified that comments were properly incorporated into the videos by READ TA/WKW, a post-validation workshop by MOE, RSEB and ZED was held to sign off on validation checklists approving all 90 Grades 5–8 model teacher videos produced in the seven MTs.

Develop Phonological Awareness Software, Papaya, and Audio Companion

The revised national curriculum includes key elements of reading instructions new to the Ethiopian context, specifically phonological awareness (i.e., the ability to focus on, manipulate, and break apart the sounds of a language) and graphophonemic awareness (i.e., the ability to hear and manipulate the sounds in spoken words). READ TA used a phonological awareness application and an audio companion as key supplementary professional development and teaching aids at the CTE level. These tools were deployed as part of the validated READ MT package.

Papaya is an easy to use, yet, powerful, phonological awareness application, allowing users to improve their identification of the correct letter/syllable sounds in a given language and practice these sounds. In addition, READ TA produced an audio companion, which is a library of recordings, aligned with the new Grades 1–2 teacher guides, of the main blending, segmenting, and student and teacher read-aloud components in each lesson. To develop the content for Papaya, READ TA made recordings of letter/syllable sounds in each of the seven MTs.

READ TA worked with RSEBs to record these letter/syllable sounds for the seven MTs in Year 3. However, the READ TA team learned that there were disagreements among MT experts on the perfection of recorded sounds in a few MTs. Hence, READ TA revisited the recordings and re-record some of the sounds, which was finalized in Year 4. The final, validated sounds were included in an updated Papaya application and deployed to all the 36 CTEs in Ethiopia and installed on MT lecturer tablets.

In total, READ TA recorded 6,500 audio companion files featuring key blending, segmenting, and student and teacher read-aloud lesson components from the new Grades 1 and 2 TGs in 7 MTs. The recordings were made by language experts identified by READ TA regional offices in collaboration with RSEBs who used TGs developed for Grades 1 and 2 MTs. Moreover, a checklist was developed and used for each recording to ensure its correctness and filing. With the help of a checklist, all audio files were assessed and validated by MT experts from each language. Validated audio companion libraries were also deployed to CTEs for use on the tablets of MT lecturers.

Produce TV Cartoon Episodes Supporting Reading and Writing

The revised MT curriculum materials are well crafted to teach MT reading and writing at primary schools. However, READ TA complement the formal school curriculum with TV cartoons that feature key MT elements for improved reading and writing performance of students. These were aired through regional public television stations. Hence, partnering with WKW, READ TA developed eight episodes of the Tsehai Loves Learning (TLL) TV show in each of the seven MTs. TLL

is an existing, internationally acclaimed, and extremely popular educational children's television program in Ethiopia. It broadcasts regularly via the national Ethiopian Broadcasting Corporation (EBC).

Leveraging its existing partnership with EBC and regional TV stations for Amhara, Oromia, SNNPR, Somali, and Tigray regions, WKW started broadcasting LL episodes in January 2018. In addition, the MOE and five RSEBs received copies of the episodes to use at their own preference. The broadcasting of the episodes could have happened earlier had there been no delays by the MOE in approving the development of the episodes. Due to these delays, READ TA was only to begin developing the TLL episodes in Year 5 and launched the episodes during READ TA's extension period.

Specific activities that were involved in the development of TLL are described below.

Conceptualizing the episodes

READ TA organized a 1-day brainstorming workshop to help with the conceptualization of the TLL episodes. The workshop helped identify eight skills and key messages to be featured in the episodes and was attended by MOE and RSEB representatives and READ TA R&C experts. The identified reading skills were (1) introducing characters and setting; (2) understanding the story structure of beginning, middle, and end; (3) predicting; (4) answering inferred and direct questions; (5) retelling; (6) figuring out the meaning of the words using the context, i.e., vocabulary; (7) developing the main idea; and (8) expression in reading. The eight key messages were (1) reading can and should happen anytime, anywhere, (2) reading aloud is important, (3) reading together is good, (4) everyone should read, however they can, (5) ways to make kids better readers, (6) why reading is so important, (7) reading in MT is beneficial, and (8) importance of supplemental reading.

TLL episodes standard English script development, review, and validation

Following the conceptualization of reading skills and key messages to be featured on the eight TLL episodes, standard English scripts were developed by the READ TA/WKW creative team based on recommendations from READ TA R&C specialists who selected stories from the revised Grades 1–4 SBs and TGs. The standard English scripts were later reviewed by experts from the MOE, RSEBs, and READ TA, and subsequently validated by representatives from MOE, RSEBs, and READ TA.

Adaptation of English scripts to seven MTs and validation of the adapted scripts

First, the validated eight TLL standard English scripts were adapted to Amharic. The adapted Amharic scripts were validated by experts from the MOE, Amhara RSEB, and READ TA. Following adaptation and validation of the Amharic TLL scripts, READ TA led the adaptation and validation of scripts to the six other MTs: Af-Somali, Afaan Oromo, Hadiyyisa, Sidaamu Afoo, Tigrinya, and Wolayttatto. Two language experts worked on the adaptation of each of the six MTs with the support of a READ TA developed guide. The guide helped ensure that the scripts were appropriate as per the MT curriculum, the stories were designed to be engaging and understood by the target group of children, and the stories were culturally appropriate. The adapted 56 TLL episode scripts were validated by the MOE and RSEB representatives.

Production of eight Amharic TLL episodes and dubbing episodes into six MTs

The production of the TLL episodes started with producing eight Amharic TLL episodes. Production in the other six MTs (Afaan Oromo, Af-Somali, Hadiyyisa, Sidaamu Afoo, Tigrinya, and Wolayttatto) was conducted by changing the audio for the already developed Amharic episodes into the other MTs.

The production work started with recording audio for eight of the Amharic TLL episodes. The READ TA/WKW production team edited each of the eight episodes' puppet segments and completed inserting edited puppet segments for all episodes. Each episode included an average of 3–6 minutes of an animation production segment that is used whenever Tsehai or her family start to read a book and the characters from the book suddenly come to life and start speaking and acting. READ TA/WKW managed to finalize eight episodes, each 10- to 15-minutes, in Amharic in a short

time. Following the production of the Amharic episodes, participants from MOE, the Amhara RSEB, and READ TA/WKW and RTI staff collaborated in the review and validation of the eight Amharic TLL episodes using a validation checklist. Production of TLL episodes in the six MTs started after the validation of Amharic TLL videos. READ TA/WKW identified voice actors to portray specific characters for all six MTs. READ TA finalized production work on the remaining six MTs in Year 6, followed by a review and validation of the episodes with active participation from READ TA/WKW and experts from RTI, the MOE, and RSEBs. At the end of the production activity, 56 episodes were produced in seven MTs.

TLL sign language production

Following the validation of the seven MT TLL episodes, READ TA/WKW produced sign language translations for each of the videos in the respective MTs. The sign language production was important to make the videos accessible to deaf students. MOE, RSEB, and ZED representatives later reviewed and validated the MT TLL. During the validation workshop, expert from EBC explained basic sign language concepts to the participants. A sign language translator facilitated the workshop even though the regional sign language experts involved could hear and speak. The participants were very appreciative of the activity for being the first to produce high-quality MT videos including sign language.

Produce Public Service Announcements (PSAs) Supporting Early Grade Reading and Writing

As an additional production to the TLL episodes, READ TA developed eight PSAs in each of the seven MTs. The PSAs, each 1- to 2-minutes long, target parents and families encouraging the development of a culture of reading with children at home. Although a DVD copy of the PSA was distributed to the MOE and all five RSEBs to let them use the PSAs as needed, READ TA/WKW worked to ensure broadcasts of the PSAs on national and regional television stations was conducted post-READ TA.

READ TA/WKW mobilized its own resources and time to produce the PSAs. Key messages were identified for the PSAs that promoted reading and were translated into video segments by READ TA/WKW. The segments were filmed in schools and households and later edited and produced into the PSA segments. The key messages featured in the PSAs promoted the following:

- Even after an exhausting day, you can still help your child adopt a habit of reading.
- Everyone can help his or her child to like reading.
- Listening and retelling stories motivates children for reading.
- Providing supplementary materials and encouraging children to read aloud helps them become good readers.
- Reading in the MT helps children to learn a second language easier.
- Valuable life lessons can be learned from reading.
- Reading is not limited by time or place. Cultivate the love of reading in your children.
- It is important to provide supplementary books to all children.

Distribute English Language Supplementary Books

To support and encourage English language reading and writing of target primary school children, READ TA supported the selection and distribution of 534,000 donated grade- and context-appropriate English supplementary books to 1,058 primary SCCs in all regions and city administrations of Ethiopia. The series of steps that led to this accomplishment include the following:

Establish book selection committee and develop selection criteria

READ TA closely worked with the MOE to establish a book selection committee with representation from the MOE and all RSEBs and CAEBs. Committee members were selected based

on a TOR developed by READ TA and MOE, primarily requiring members to be English-language graduates with a minimum of a bachelor's degree. The book selection committee was established in alignment with the terms stated on the TOR. The members included two MOE, nine RSEB, two CAEB, and one READ TA representative. Working with the MOE, READ TA supported the book selection committee to develop and enrich a book selection criteria, which was later approved by the MOE.

Establish a regional quota for distribution of English supplementary books

READ TA to distribute the donated English supplementary books to at least 1,000 SCCs throughout Ethiopia. The MOE determined specific quotas to select the number of participating Grades 1–8 schools in each region.

Select demonstration books representing type of books to be shipped

In a workshop conducted in Addis Ababa, the book selection committee used the book selection criteria to select demonstration books made available by the RTI partner, BfA. In addition to the criteria, the committee used the MOE's Primary English Language Syllabi to check relevance of the books. Among the demonstration books made available in the workshop, the selection committee accepted 92% and recommended similar book categories for provision to Ethiopian primary SCCs.

Ship supplementary books from the United States

READ TA shared the MOE-approved book selection criteria with BfA, along with a list of book categories identified as demonstration books. BfA used the MOE-approved selection criteria to identify appropriate primary English supplementary books and, as the books became available, shipped the selected books from the United States to Port Djibouti. This was done in three shipments in a total of nine containers. A logistics company procured by READ TA handled customs clearance and transported the books to Addis Ababa.

Select appropriate books and distribute to SCCs

A logistics company procured by READ TA stored the books in a warehouse, sorted the books per guidance from the book selection committee, and packed boxes for each SCC upon verification by the book selection committee. Following the committee's final review and approval, the logistics company finalized labeling and packing the books.

Build Local Writers' Capacity to Write Grade-Appropriate Children's Books

To create a cadre of local authors who can write grade-appropriate children's books/supplementary reading materials in each of the seven MTs and English, READ TA organized two separate writers' workshops. READ TA built the capacity of 40 local writers selected for the seven MTs and 16 writers for English in the development of supplementary reading materials. Moreover, 133 MT SRMs and 100 English SRMs developed during the workshops were finalized and handed over to the MOE and all RSEBs/CAEBs.

Writers' workshops with authors for the seven MTs

READ TA conducted two rounds of writers' workshops with authors for the seven MTs to develop supplementary reading materials. READ TA/SIL LEAD facilitated 3-weeks of writers' workshops and trained local writers to write stories and texts in their own language for different audiences, specifically Grades 1–8 students. The workshop also included training on Bloom software, which is a free software tool designed to rapidly create and publish books in MT. Bloom is user friendly, especially for participants with limited computer knowledge, and assisted the writers to prepare their own stories and text in a print-ready format.

A total of 40 (11 women) local writers were trained to develop supplementary reading materials. The supplementary reading materials produced in the workshops were later finalized by READ TA R&C Specialists. A total of 133 SRMs in six MTs (37 decodable and 96 leveled) were ultimately handed over to the MOE and respective RSEBs. Afaan Oromo SRMs produced during the writers'

workshop were not finalized, nor handed over, because the Afaan Oromo SRM writers did not give permission to hand over the stories they developed.

Writers' workshops with authors in English

In Year 5, READ TA provided technical support to the MOE and RSEBs to revise the English curriculum materials for Grades 1–8. As part of this initiative, READ TA trained 16 experts from all regions and city administrations of Ethiopia. The local experts were trained for three weeks on writing English SRMs using Bloom Software, during which time they practiced and produced 160 English SRMs.

Following the English writers' workshop, the English SRMs produced by the experts were reviewed and the 100 best materials were identified. The selected SRMs were then edited for language and their illustrations were reviewed for quality and appropriateness. Moreover, READ TA selected appropriate illustrations from its illustration bank, which a READ TA R&C specialist inserted into the SRMs through the Bloom Software. The 100 English SRMs were finalized early in December 2017 and distributed to 11 regions and the MOE in hard and soft copies.

Build Capacity for School Cluster Library Coordinators

As part of the support provided to over 1,000 school clusters centers with English supplementary materials, READ TA also trained the SCC's library coordinators. The training was designed to equip library coordinators with skills needed to manage the resources they received for improved reading and writing, including the English supplementary materials. Overall, READ TA trained 842 library coordinators from all regions and city administrations in the country. Activities that led to the training of the library coordinators are presented below.

Prepare for training of library coordinators

The main preparatory activity for the training of library coordinators included identifying a consultant to prepare training materials and lead the training of library coordinators. READ TA hired a consultant who developed a training guide for a training of trainers (TOT) and provided training for the TOT.

The training of library coordinators followed a cascaded training model in which READ TA first trained 98 trainers of trainers, who later cascaded training to 842 library coordinators in 2-day sessions. Trainers were selected by the regions, according to quota (number of trainees to be trained) provided to them by the MOE.

The training material was developed in English and Amharic and later adapted to regional working languages. The consultant designed the training in a participatory approach and focused on enabling the trainees to have proper understanding of how to manage school libraries. Contents of the training focused on equipping participants with the following:

- Ability to identify the purpose of the school library and role of school librarians.
- Understand the philosophy of library resources and services.
- Ability to organize the library collection efficiently and effectively to provide effective access points for the readers.
- Skills in managing the school libraries effectively and efficiently.
- Ability to transfer the knowledge and skill about library management to the respective library coordinators.

Train library coordinators

The training of library coordinators was facilitated by the trained trainers. Most of the participants who attended the training were teacher librarians, working in the library in addition to their regular teaching assignments. Therefore, training materials were targeted specifically to the purpose of enabling participants to manage their expanded school libraries with the donated English books. The

training method was participatory and hands-on. Of the expected 1,008 library coordinators, 842 (310 women) were trained across the country. The overall accomplishment against the plan is 83%.

Introduce Assistive Technology in MT Instruction for Students with Visual and Hearing Impairments

As mentioned earlier, READ TA's mandate included the consideration of modest technologies and supplementary teaching aids in direct support of the revised curriculum for reading and writing in MT at CTEs and SCCs. Keys to this consideration were relevance, cost-effectiveness, and practicability of such resources in the Ethiopian context and their specific application to enhance the activity's programmatic objectives. READ TA's approach aimed at building the capacity of Ethiopian institutions to determine which technologies

- were locally relevant (e.g., for a particular region or CTE),
- were potentially useable in the existing institutional environments,
- offered the best potential instructional value-added, and
- had reasonable costs and could be implemented cost-effectively.

A cross-cutting objective of the activity was inclusive education, especially the consideration of children with disabilities in regular classrooms. Hence, READ TA designed an assistive technology initiative (Assistive Technology Capacity Building Initiative [ATCBI]) targeting READ TA's objective of improving reading and writing for all children in mainstream Ethiopian classrooms.

READ TA rolled out the ATCBI in Year 4 with major preparatory activities accomplished. These included establishment of Regional Assistive Technology Working Groups in the five regions, regional rapid data collection to gain initial insight into the situation of children with special education needs and the support available to them, selection of appropriate region-specific assistive technologies, and preparation and validation of region-specific assistive technology action plans. During Year 5, READ TA intensified efforts to implement ATCBI pilots at 63 selected schools in the five regions. These efforts included procuring approved assistive technology items, developing instructionally accommodated TGs, creating training manuals, training of teachers and principals from pilot schools, rollout of ATCBIs at pilot schools in the five READ TA target regions, monitoring implementation of pilots at schools, and collecting baseline and endline data from ATCBI pilot schools in the five regions.

The ATCBI was very successful in demonstrating how reading and writing instruction can be assisted with technology, specifically targeting students with special needs. This success is demonstrated through the results seen at endline where teachers' self-efficacy and practices in teaching inclusive classrooms showed improvements with inputs that included training, screening apps, inclusive multimedia lesson plan, and monitoring support from READ TA. Given READ TA's technical assistance mandate, the ATCBI also built the capacity of the participating RSEBs, disabled persons organizations, and CTE staff (organized into regional working groups) in identifying, implementing, and monitoring the initiative.

Specific steps in implementing the ATCBI in the five regions included the following activities:

Establish Regional Assistive Technology Working Groups

READ TA organized regional-level consultative workshops in the five target regions to consult with stakeholders on the plan for the initiative. A total of 82 (21 women) participants from the MOE, RSEBs, CTEs, disable people's organizations (DPOs), and NGOs took part in the workshops conducted in the five target regions. During the regional consultative workshops, regional working groups were established for each of the five regions comprising eight to nine people. The established working groups consisted of regional MTTF members; RSEB SNE, inclusive education, and ICT experts; and representatives from DPOs and other NGOs working with persons with disabilities that had a regional presence. The working groups were tasked with the responsibility of overseeing the implementation of the initiative and, in the process, building their capacity to assess the needs,

design, implementation, and evaluation of technology-supported initiatives that promote early reading and writing.

Conduct regional rapid data collection about children with special education needs

To inform the assistive technology pilot initiative, READ TA G&IE Specialists and select working group members prepared rapid data collection tools and collected regional-level data. The regional data collection teams collected data from RSEBs, CTEs, and schools (regular and SNE). The data was analyzed regionally by READ TA G&IE Specialists who produced region-specific reports about students with special education needs (SEN). The data mainly focused on the status of SNE, figures on the number of students with disabilities, types of disabilities, available technologies and teaching aids used to support students, and existence of other initiatives, by both government and NGOs, on inclusive education from the respective RSEBs. The data helped identify appropriate technologies and target groups for the initiative.

Select appropriate assistive technologies and prepare regional ATCBI action plans

Following data collection from the five regions on students with disabilities, a central-level workshop was conducted from April 12–15, 2016 in Bishoftu to share reports on the data collected, present potential technologies, and prepare regional action plans outlining appropriate and modest assistive technologies that could support reading instruction for children with disabilities in inclusive classrooms. Regional working group members collaborated with participants from the MOE including the Directors for Special Support and Inclusive Education and the Center for Educational Information Communication Technology (CEICT); special needs and curriculum experts from the MOE and RSEBs; DPO representatives; and READ TA staff to jointly assess needs and agree on technology that can best be integrated to support early reading and writing for heterogeneous learners in their region. It was agreed that the regional initiatives would focus on mild to modest disabilities (e.g., low vision and hard of hearing) rather than the severe forms (blind and deaf), which are being addressed more notably through other government partners. Looking at sustainability, the participants also agreed on focusing the assistive technology on the teachers who are critical multipliers for inclusive instruction, rather than at the student level. Following the discussions, regional action plans were developed by the regional working groups, focusing on how to implement the identified technologies at primary schools.

The action plans prepared by each regional working group were presented to regional MTTFs and subsequently validated at workshops organized in the five regions. The plans outlined a focus on students with vision or hearing impairments in mainstream schools and classrooms. The regions selected screening tools for vision and hearing, audio versions of the SBs and TGs, and adapted versions of the new MT curriculum as key contents for the assistive technology pilot initiative.

Procure approved assistive technology items and prepare for pilot implementation

The procurement of approved assistive technology items and applications was completed early in Year 5. The procurement was coupled with other preparatory activities that helped produce inputs to the technology items, including instructional accommodation of TGs, quality assurance of the instructionally accommodated guides, and testing the compatibility and functionality of the procured materials along applications.

Procure approved assistive technology

A focus in procuring the assistive technology items was sustainability and value of investment of different assistive technology devices and tools. All five regions opted for pedagogical support materials on Android smartphone devices. Although teachers had limited experience with smartphones, the regions felt that the technology was still appropriate given the purpose and forward-looking design of the initiative. The declining price of smartphones in the market was also assumed to improve affordability of the technological device. Application for hearing and vision screenings were also selected to accompany the smartphones, which included HearScreen and PeekVision, respectively. The selection was made following a comprehensive review and testing of existing vision and hearing screening tools. READ TA selected the Tecno W3 Android

phone for delivery of the screening tools and instructional resources because of its features and price. Procurement of the identified software applications, smartphones, and special headphones was completed along with the calibration of procured smartphones necessary for the hearing screening.

Develop instructionally accommodated TGs

A technological solution that was tested in the assistive technology pilots was inclusive multimedia lesson plans (IMLP). The IMLP is a digital version of a TG rendered on a smartphone with instructions modified for learners with vision or hearing impairments. It also contains recordings of listening texts and blending and segmenting exercises.

To produce IMLPs, READ TA modified instructions and activities in the Grade 2 TG in all seven MTs to better accommodate learners with vision or hearing impairments in inclusive classrooms, referred in READ TA as “instructional accommodations”, and render the lesson plans in a smartphone app. Instructional accommodations of TGs were conducted in two phases by the READ TA G&IE and R&C Specialists. The first phase of accommodations and IMLP development was conducted for Grade 2 TG content in the seven MTs for use during the assistive technology pilots in the five regions. The second phase was conducted on Grade 1 TG contents, following recommendations by participating teachers, for use by RSEBs and schools interested in scaling up the ATCBI to additional grades. Quality assurance of the modified/instructionally accommodated TGs in the seven MTs was done by respective MTTF from the five target regions.

The instructionally accommodated Grade 1 and 2 TGs were rendered into the IMLPs along with audio files for reading stories, blending, and segmenting with the support from graphic designers and information technology (IT) experts.

Test assistive technology materials

Before pilot implementation of the assistive technology initiative, READ TA wanted to test the usability of the instructionally accommodated TGs in the classroom and use the feedback to improve components of the initiative, as needed. Hence, READ TA trained 12 MT teachers and 6 principals who were invited from six Amhara and Oromia region pilot schools. The teachers and principals were introduced to the concept of inclusive education, ATCBI's aim, instructional accommodations for children with vision or hearing impairment, and practical steps of using the instructionally accommodated TGs loaded on smartphones. Moreover, teachers were provided with the instructionally accommodated TG for their respective MT, loaded onto the smartphones, and allowed time to practice with it.

The trained teachers returned to their respective schools and used the electronic version of the instructionally accommodated Grade 2 TG for a week. Simultaneously, READ TA deployed staff to the pilot schools who collected feedback on the implementation of the instructionally accommodated TGs in Grade 2 classrooms. The feedback was used to validate the clarity and practicality of accommodation instructions, validate whether 1-day trainings was sufficient for teachers to have the confidence using IMLP on phones, and validate IMLP on the phone (i.e., screen size) as a delivery option.

Develop training manual and train teachers and principals

In preparation for conducting training on the assistive technology pilot for teachers, principals, and supervisors from pilot schools in the five regions, READ TA developed an ATCBI teacher training manual in English. The manual focused mainly on principles of SNE, inclusive education, curriculum differentiation, accessible and modest technology for students with vision or hearing impairments, and pedagogical and methodological support for teachers. READ TA's regional G&IE and CB Specialists later adapted the teacher training manual into seven MTs. Quality of the adapted teacher training manuals were subsequently ensured by READ TA R&C Specialists and external MT experts.

Following the development and adaptation of the manual, READ TA provided a 3-day training for staff who later cascaded the information in a 2-day training for 114 (84 women) Grade 2 MT

teachers and 63 (7 women) principals from 63 ATCBI pilot schools in the five regions. ATCBI working group members from the five regions co-led and took part in trainings in the respective regions. Participants were trained on the objective, tools, and techniques important for assisting students with vision or hearing impairment in schools. Trainees also received electronic copies of the modified Grade 2 TG via smartphones and were given time to practice.

Implement assistive technology pilot initiatives and monitor progress

Immediately after the training of teachers and principals from assistive technology pilot schools, READ TA officially delivered technology items loaded with IMLP and screening application software to pilot schools in the five regions. Each trained teacher received a set of headphones and a smartphone loaded with hearing and vision screening applications and the Grade 2 IMLP in their respective MT. Following delivery of the technology items, teachers and principals began implementing the pilot initiative.

During implementation, READ TA conducted two supportive monitoring visits. The first monitoring visit, within 3 to 4 weeks after initial training, was very helpful as it allowed the READ TA team to find out in what areas teachers needed refresher training. Consequently, READ TA conducted regional refresher trainings for pilot schools. A total of 194 (91 women) teachers, principals, and regional representatives participated in the refresher trainings, which addressed the skill gaps identified during monitoring visits. The refresher training equipped teachers and principals with a better understanding of what to do in the classroom to better accommodate the target students.

The refresher training was followed by the second round of READ TA monitoring of ATCBI pilot implementation at schools. This round of monitoring visits saw great improvements in the overall implementation of the initiative, as teachers showed more confidence and increased use of the IMLP.

Evaluate the ATCBI: Baseline and endline studies

READ TA worked to build local capacity through extracting lessons from implementation of small-scale technology initiatives that support learning to read, specifically addressing the needs of clearly identified target groups. The ATCBI was one of such initiative and required rigorous monitoring and evaluation. Lessons drawn from monitoring and evaluation of the initiative help local institutions to learn and disseminate successful strategies on a larger scale.

Therefore, READ TA conducted rigorous baseline and endline studies on the ATCBI initiative in addition to progress monitoring via the two monitoring visits. The baseline study started with development of data collection instruments that were field tested and subsequently improved. Final instruments included classroom observation, student interviews, including a mini-EGRA, teacher interviews, and principal interviews. Following testing of the instruments, READ TA trained 35 assessors in a 3-day workshop for the actual baseline data collection. The ATCBI baseline data collection was conducted in 63 schools across the five READ TA target regions and was guided by a data collection protocol. Eleven data collection teams gathered baseline data from 114 classrooms at 63 schools in the five target regions. Following the completion of the baseline data collection, READ TA cleaned and analyzed the data gathered and produced a baseline report.

The ATCBI endline data collection was conducted on all ATCBI pilot schools in the five regions using the same instruments as the baseline. Before the data collection, a refresher training was provided for teams of assessors, who were part of the baseline with a few new substitutes. The endline data collection was also guided by a data collection protocol that had slight changes, the major one being that screenings were not included. Similar to the baseline data collection, endline data collection teams were able to collect data from a total of 109 classrooms in 63 schools in the five regions. Following the completion of the endline data collection, READ TA analyzed the data gathered and produced a report.

The ATCBI baseline and endline studies were conducted to explore the use of technology to screen disabilities in the classroom, to learn if and how teachers might use assistive technology for instruction, and if provision of technology-mediated pedagogical support materials and training promotes adoption of inclusive instructional practices. This also included exploring if such supports

help remove barriers of teacher attitude and efficacy in teaching students with sensory impairments in their mainstream classrooms. The results indicated positive outcomes of the intervention demonstrating significant improvements in teachers' attitudes and self-efficacy in inclusive instruction and teachers' adoption of inclusive instructional practices.

Share findings and recommendations from the evaluation of assistive technology initiatives

To share findings and recommendations from the evaluation of assistive technology initiatives, READ TA held national and regional workshops. The national workshop was attended by the MOE, the RSEBs of the five target regions, DPOs, and NGOs. During the workshop, READ TA shared the ATCBI experience of planning, implementing, and evaluating the pilot initiative. National-level results from evaluation of the ATCBI were also presented to workshop participants. Workshop participants reflected on their experiences and lessons learned from the initiative and approved the results of the ATCBI evaluation. Regional participants also prepared region-specific plans focusing on how they will use the experience gained from the pilot schools.

Following the national ATCBI evaluation results sharing workshop, READ TA held four regional workshops in Amhara, Ethio-Somali, SNNPR, and Tigray regions. Regional workshop participants included teachers and principals from the pilot schools and cluster supervisors supporting the pilot schools, woreda education department and ZED heads and delegates, and RSEB leaders, including bureau heads, deputy heads, and process owners. Regional DPOs and partner NGOs were also part of the regional sharing workshops. The Oromia Region ATCBI results sharing workshop did not take place because of the region's reluctance to conduct the workshop given its decision to suspend the use of the READ TA-developed curriculum materials. The workshop agendas of the regional ATCBI evaluation results sharing workshops were similar to those in the national workshop, except that the ATCBI evaluation results presented regionally included region-specific findings and figures along measures evaluated. A key component of the regional workshops was adding teachers' voices and reflections to the results and bringing study results to life with real-world examples and comments. At the end of the regional ATCBI evaluation results sharing workshops in all four regions, participants (RSEBs, ZEDs, WEOs, and MT teachers and school principals) indicated their approval of the regional results and their commitment to sustain the ATCBI model in their respective regions.

Promote regional initiatives for ATCBI scale up

Beyond conducting the pilot initiatives in selected schools, READ TA was committed to supporting future use of the tools by participating teachers and schools. Hence, all smartphones used for the pilot were left with the pilot schools. In addition, READ TA updated the smartphones distributed to schools with full semester Grades 1 and Grade 2 IMLPs during the regional workshops. The IMLPs were also delivered to the respective RSEBs of the five regions to ensure that the RSEBs had the technology resources in case there was interest in expanding the initiative to additional schools and grades.

Integrating ICT to Support READ TA Activities

READ TA worked hard to integrate technology in its activities wherever it added value. The use of technology in support of READ TA activities always included significant active engagement and reflection by MOE and RSEB representatives beyond review and validation. Hence, READ TA's use of technology also contained a capacity building aspect. Instances of technology integration in support of READ TA activities are briefly described under the technology used below.

PrimerPro: A key principle in the teaching of reading is to teach the most frequent letters/syllables first. That is where using the PrimerPro software is important. PrimerPro allows for linguistic analysis of each target language to inform the scope and sequence for developing curriculum materials. The program examines sample text and notes how many times a given letter/syllable occurs. In developing the Grades 1–8 curriculum materials in the seven MTs, READ TA primarily used PrimerPro outputs on frequency of letters/syllables to decide the order of their introduction in the revised books.

WeSay: WeSay is a software that helps non-linguists build a dictionary in their own language. As READ TA was working to support curriculum revision in MTs that were still developing, the use of WeSay for word listing was important. Hence, in preparation to develop curriculum materials for Grades 1–8 in the seven MTs, READ TA provided a training on WeSay software for Word-Listing Assistants (two for each of the seven languages). The assistants were contracted to develop a database of 4,000+ primary-level words in each language for use in material development.

Bloom: Bloom is software designed to create and publish books and is easy to use by participants with limited computer knowledge. READ TA trained local English and seven MT writers to use Bloom to write stories and texts in their own language, which resulted in the creation of supplementary reading materials for Grades 1–8. READ TA also trained MT teacher educators on the software. The training was intended to build the capacity of MT teacher educators.

Tangerine: Tangerine is open-source software that helps to systematically collect data and conduct student assessments in low-resource environments. The software facilitates data capture and analysis and is compatible with a wide range of low-cost mobile technologies, languages, and writing scripts. READ TA used Tangerine to collect data for monitoring large-scale teacher training rollouts in support of a grant management effort, collecting data for the situation analysis of the Grades 1–8 English curriculum materials at schools, the ATCBI baseline and endline data collection, as well as monitoring during ATCBI implementation.

Technical Assistance for other READ Projects in Developing Supplementary Reading Materials and Teaching Aids

Working under USAID’s READ program for improved reading and writing performance of primary-level students, READ TA was responsible for technical assistance to the MOE and RSEBs in revising the primary-level MT curriculum and materials. Hence, other complementary READ projects working for the achievement of the same objective based their work on the primary curriculum READ TA helped revise. This positioned READ TA to become a resource for other READ projects namely, Reading for Ethiopia’s Achievement Developed Community Outreach (READ CO) and Reading for Ethiopia’s Achievement Developed Monitoring and Evaluation (READ M&E).

READ TA supported READ CO’s effort of developing supplementary reading materials that are aligned with the revised primary curriculum. This took place through sending READ TA’s R&C Specialists to supplementary reading materials development workshops led by READ CO. Similarly, READ TA supported READ M&E in its effort to develop formative continuous assessment materials that included flash cards. The support was provided by way of READ TA expertise made available during a workshop organized by READ M&E. Such collaboration between the READ projects, beyond producing materials that support the overall objective of USAID’s READ program, helped produce materials that are in alignment to the revised MT curriculum across projects.

3.1.4 Intermediate result 4

Technical Assistance to Support RSEBs and the MOE for READ Institutional Improvement

READ TA demonstrated remarkable achievements in technically assisting the MOE and RSEBs for institutional improvement in revising MT and English curricula. Key to this success was READ TA’s achievements of the following milestones.

- Revision of pre-service MT teacher education curriculum resulting in development of seven new pre-service MT course modules
- Training of all pre-service MT teacher educators from the 36 CTEs in Ethiopia
- Capacity building provided for MOE experts and leaders based on researched needs
- Capacity building provided for RSEB, ZED, and WEO experts and leaders based on researched needs

- Capacity building provided for school cluster supervisors and principals on the new MT curriculum
- Strategic document production on adaptation of new MT curriculum materials for students with special needs
- Production of example braille curriculum materials for blind students
- Organization of a national reading symposium

READ TA activities that led to the achievement of the above milestones are discussed under each heading below.

Revision of Pre-Service MT Teacher Education Curriculum Resulting in the Development of Seven Pre-Service MT Course Modules

Florida State University (FSU), RTI's partner in READ TA, led all activity tasks related to the revision of the pre-service MT teacher training curriculum in alignment with revised primary MT curriculum. Efforts to reform the pre-service MT teachers training curriculum begun with an assessment of the current pre-service curriculum and culminated in the successful development of seven quality pre-service course modules promoting reading and writing. Detail on the activities that led to the reform of the pre-service MT curriculum are outlined below.

Baseline assessment of pre-service teacher education programs at CTEs in Ethiopia

At the initial phase of the READ TA activity, FSU conducted a baseline assessment of CTEs in five activity regions. According to that assessment, the need to review current teaching practices and introduce new content and evidence-based approaches to teaching reading and writing at the early grades became evident. Also, in view of the newly developed primary curriculum (notably the Grades 1–8 syllabi and textbooks) the need to prepare CTE lecturers or teacher educators on how to integrate the new curriculum into their syllabi became paramount to the success of the activity in producing a cadre of primary school teachers who can effectively teach reading and writing in MT.

The baseline assessment report was approved by the MOE in June 2014, and shared with RSEBs and CTEs. Findings of the assessment indicated the following:

- CTE programs of study do not include explicit training in early grade reading instruction
- Lecturers report CTE students tend to have weaker academic backgrounds and poor reading skills than desired
- There appear to be powerful disincentives to teaching in the primary grades
- There is a severe shortage of MT reading materials for CTE students

Based on these findings, the following major recommendations were made:

- In collaboration with CTE experts in the local culture and MT, develop a sequence of courses on primary grade reading instruction for all CTEs and train lecturers from each CTE to teach the courses.
- In collaboration with the MOE, RSEBs, and CTEs, establish these courses as part of the formal curriculum of the colleges.

Review and revision of MT course syllabi for pre-service MT program

In preparation to implement the recommendations from the baseline assessment of pre-service teacher education programs at CTEs, READ TA consulted with the MOE and RSEBs on the vision and goals for curriculum reform related to the teaching and learning of MTs in Ethiopia. It became clear that the course syllabi for the MT program would need to be reviewed and revised to reflect the changes made to the primary school curriculum (Grades 1–8). The READ TA/FSU team collected the documents to be reviewed, including the National Framework for Preservice Teacher Education (standards), and the syllabi for all courses taught at CTEs under the MT program. The

documents in Amharic were translated into English by a group of language experts, then validated before revision. The revision workshop included MOE, RSEB, and CTE representatives. The syllabi were revised and 14 courses related to the areas of literacy (e.g., reading, writing, listening, and speaking) were fully reviewed and revised and aligned with the primary school curriculum. In addition, the revision process considered evidence-based literacy instruction, gender, and inclusion perspectives.

Development of pre-service MT course modules

After reviewing the primary and new CTE course syllabi, and as a matter of prioritization, four courses were initially identified as the most critical in supporting the revised primary MT program. However, after the completion of the initial four modules, MOE requested that READ TA extend its work to include the development of three additional modules. With USAID concurrence, READ TA helped fully revise a total of seven pre-service MT course modules:

MT 201: Cognitive Development and Literacy Skills (Module 1). This course introduces the theoretical framework for how children learn to read, write, speak, and listen. The five components of reading (and writing) are introduced and discussed thoroughly.

TMT 222: Teaching Reading and Writing in Primary Schools (Module 2). This course provides opportunities for pre-service teachers to learn how to teach skills and strategies in reading and writing, with due emphasis on the primary school MT curriculum.

TMT 224: Methods of Teaching Speaking and Listening in Primary Schools (Module 3). This course focuses on how children acquire a first and second language and various instructional and assessment techniques for oral language (speaking and listening).

TMT 322: Assessing Language Skills and Differentiated Instruction (Module 4). This course builds on the previous courses. The major objective of the course is to develop pre-service teachers' ability to assess students' reading and writing skills and to use the assessment information to design instruction that meets the needs of diverse learners.

MT 212: Introduction to Language and Linguistics of Mother Tongue (Module 5). This course teaches the CTE students in the MT program about the characteristics of language and structures of their MT that impact literacy instruction.

MT 223: Children's Literature in the Mother Tongue (Module 6). This course provides opportunities to explore the different types of children's literature and practice activities that support children's understanding of what they are reading. The module develops pre-service teachers' competence on how to use children's literature to build literacy skills of primary school students.

MT 221: Developing Reading Skills in Mother Tongue (Module 7). This course supports CTE students' improvement in skills needed to read, comprehend, synthesize, and process complex information found in the MT coursework.

The development of each module happened one after the other. Each module was developed in collaboration with the MOE, RSEB, and CTE instructors and READ TA linguists. FSU's reading specialists followed a strict process of reviewing existing syllabi, engaging FSU faculty and CTE instructors in the research process, and selecting evidence-based approaches and best practices in teaching reading and writing in English and seven MTs. Specific steps that led to the development of the seven pre-service MT course modules included the following:

Curriculum and materials development training. After the revision of the syllabi, the READ TA/FSU team conducted a workshop involving 60 CTE instructors to prepare them to develop the instructional materials and curriculum associated with the MT courses to be developed. Special attention was put on aligning the MT curriculum with the standards of learning set by the MOE. The CTE instructors were trained to develop materials based on the standards, practice writing learning objectives, designing activities, and developing assessment questions.

Supplemental resources were provided to allow participants to practice writing using references to research-based standards and evidence-based best practices.

English module development. Initially, a draft for each module was developed by the READ TA/FSU team based on the national CTE syllabi and primary MT curriculum. The draft was then presented for review and revision to CTE MT instructors, MOE, and regional/zonal staff representing the seven MTs and five of the country's nine regions: Tigray, Oromia, Amhara, Ethio-Somali, and SNNPR. The course outline, objectives, contents, and proposed activities were further developed during a workshop for each module.

Adaptation to MT. A group of four to five CTE instructors and regional teacher development experts (representing each of the seven languages) were joined by MOE representatives to adapt the English version of the module to the seven MTs. The groups worked together for up to three weeks to ensure that proper adaptation (not just translation) took place. During adaptation, CTE instructors integrated activities and examples from the primary school MT student textbooks and teacher guides developed under READ TA's IR 1 activities.

English and MT module validation and post-validation revision. After each module was drafted in English and adapted to seven MTs, it was validated by representatives from the MOE, RSEBs, ZEOs, MTTF, and CTEs. The comments were reviewed and each module was revised based on relevant and appropriate recommendations. Selected CTE instructors provided support during validation workshops and revisions.

Module training (co-trainer and participant). CTE instructors received a 3- or 5-day training on each module, depending on the breadth of the module. The training was provided by FSU Reading Specialists and MT co-trainers in both English and the MTs, with participants grouped by language. FSU reading specialists and MT co-trainers modeled how to teach the module contents using various instructional techniques.

Pilot implementation, and monitoring and evaluation. The READ TA/FSU team selected and trained CTE instructors to conduct monitoring and evaluation (M&E) of the fidelity of draft modules implementation. During the M&E, CTE instructors were observed during a class session and a focus group discussion was conducted with selected CTE students who attended the class. In addition, an oral questionnaire was completed with the CTE instructors.

Module revision. Based on the feedback from M&E findings, CTE instructors, the MOE, RSEBs, and ZEO representatives worked in groups to revise the English and seven MT versions. CTE instructors recognized the value of editing and revising after field testing, as well as learning computer skills and editing techniques. Revision also involved many discussions reflecting on the content and teaching reading and writing in MT. This process improved participants' knowledge of the MT, literacy skills, module content, and pedagogy.

As part of READ TA's approach to integrate technology to meaningfully support pre-service teachers training at CTEs, the READ MT package was provided to all 36 CTEs along with capacity building for CTE MT lecturers on how to use the package. To ease use of the package, particularly the model teacher videos, READ TA integrated icons and guidance in the pre-service course modules. Hence, CTE MT lecturers followed instructions on modules to know what model video they could show students to demonstrate how to teach a reading and writing skill. Such integration of module content with model teacher videos helped establish a practical link between the pre-service MT teacher education and the revised Grades 1–8 curriculum materials.

Train Pre-service MT Teacher Educators from 36 CTEs in Ethiopia

When the process of developing, validating, and producing each module was complete, the READ TA/FSU team, together with MT lecturers, prepared a training manual and conducted a 3- to 5-day training on each module for CTE MT lecturers. The professional development workshops designed by the READ TA/FSU team were grounded in the latest research on primary grades reading instruction and effective pre-service teacher education and were targeted to improve the capacity of

Ethiopian CTEs. The following topics were integrated into the ongoing training of CTE teacher educators:

- Foundational knowledge of literacy development in languages using the Latin alphabet or Ge'ez script
- Effective research-based instructional approaches for literacy development
- Use of student data to inform reading instruction
- Differentiation of instruction using small groups
- Language and literacy

Over the activity's lifetime, nearly 250 unique MT lecturers from the 36 CTEs received training on the new MT course modules. During the training workshops, READ TA often integrated sessions on complementary topics. These included training on the use of the READ MT package that contains technology and content resources that support MT instruction at CTEs. READ TA also integrated a training on Bloom software for lecturers.

Provide Recommendations for Improving Pre-Service Teacher Education

The MOE has repeatedly requested READ TA to continue developing all courses in the MT curriculum. However, READ TA was not able to continue to provide the same type of technical assistance to the MOE, RSEBs, and CTEs to complete the remaining six modules in the program. Nonetheless, in July 2017, READ TA organized a 3-day (July 12-14, 2017) consultative meeting with MOE, RSEB, and CTE representatives to discuss the process and provide guidelines and recommendations for future development of the remaining preservice MT modules. READ TA presented the major lessons drawn from instructional materials and professional development activities completed by CTE MT instructors. Based on the lessons, CTE instructors, CTE deans, and RSEB representatives identified actions to sustain and institutionalize the new ideas and practices of literacy instruction. They also agreed to develop the remaining six MT modules and created opportunities for CTE MT instructors to continuously refine their professional capacity related to literacy instruction. The MOE took the lead on coordinating the development of the remaining modules and considered the lessons learned from developing the seven MT modules.

Provide Capacity Building to MOE Experts/Leaders Based on Needs

At its core, READ TA is a technical assistance activity for the MOE and RSEBs. Hence, all activities conducted under READ TA have built-in capacity building (CB) for the MOE, RSEBs, and other participants. READ TA also conducted a targeted capacity needs assessments to identify and prioritize needs for explicit intervention.

READ TA conducted a CB needs assessment for the MOE and produced a draft report that was validated by the MOE towards the end of Year 3. In consultation with the MOE, the report was then used to outline CB needs. The outlined needs were further examined by READ TA, the MOE, and USAID, resulting in three-point general institutional CB plan for the MOE. The three main components of the MOE CB plan were:

- Reinforce a collaborative relationship among directorates to ensure effective MT curriculum implementation
- Institutionalize the MT curriculum development process
- Conduct CB on the formative assessment for MT curriculum implementation

READ TA successfully translate the CB plan into practice in Years 4 and 5. Specific achievements included the following. READ TA

- conducted a 4-day CB workshop to foster collaboration between MOE directorates for MT curriculum implementation involving 26 participants from 9 MOE directorates;
- built 14 MOE experts' capacity in MT curriculum development in a 5-day workshop; and

- conducted rounds of workshops to build capacity for a total of 16 MOE and 30 RSEB experts on monitoring and formative evaluation of MT curriculum

Details on the accomplishments above are outlined below.

Foster collaboration between MOE directorates for MT curriculum implementation

A component of the MOE CB plan was training for the MOE directorates aimed at raising awareness of the MT curriculum and fostering inter- and intra-directorate and MOE-RSEB collaboration to support the implementation of the revised MT curriculum. In executing the CB plan, READ TA organized a 4-day workshop that brought together a total of 26 (6 women) participants comprising seven directorate directors and 19 experts (from 9 directorates). Directorates represented during the workshop were Curriculum Development and Implementation (CDI), MTELD, Teachers and Educational Leaders Development, General Education Inspection, Teachers Licensing and Relicensing, Special Support and Inclusive Education, Gender, School Improvement Program, CEICT, and Planning and Resource Mobilization.

During the workshop, participants received detailed orientation on the new MT curriculum development process, G&IE considerations embedded within the new curriculum materials, communication and support tools that can be used to display the new MT curriculum, and a technology package made available for CTEs to train MT teachers. Participants engaged in active discussions and exercises on principles for sustainable collaboration guided by a draft collaboration guide prepared prior to the workshop. The workshop was successful and resulted in the promise of improved collaboration among MOE directorates in implementing the revised curriculum.

Build MOE experts' capacity in MT curriculum development

To build the capacity of MOE relevant experts with skills and knowledge on MT curriculum development, READ TA conducted a 5-day workshop towards the end of Year 4. A total of 14 (7 women) MOE experts from six directorates (CDI, MTELD, Gender, Special Support and Inclusive Education, TDP, and Planning and Resource Mobilization) participated. A local consultant who was heavily involved in the READ TA curriculum development work with assistance from the READ TA R&C Specialists facilitated the workshop. A process guidance document prepared prior to the workshop was used as a primary training resource coupled with PowerPoint presentations and different checklists.

Participants learned about the overall processes involved in curriculum development, including syllabi review and revision, syllabi development, scope-and-sequence development, and SB and TG development and quality assurance.

Build MOE experts' capacity on monitoring and formative evaluation of MT curriculum

In Year 5, READ TA also conducted two rounds of CB training for MOE experts on monitoring and formative evaluation of MT curriculum. The READ TA team also assisted the trained MOE experts in conducting formative evaluations of the revised Grades 1–4 Amharic curriculum, which included desk and field studies.

First-round training on formative evaluation of MT curriculum

In Year 5, READ TA conducted a CB workshop on formative assessment of the MT curriculum implementation for the MOE. READ TA also used the workshop to involve RSEB participants from the 11 regions. The objective of the workshop was to provide curriculum development experts of MOE and RSEBs with the knowledge and skills necessary to develop formative assessment strategies, monitoring techniques, performance indicators, and standards in the context of curriculum implementation. Workshop attendees included representatives from the MOE and 11 RSEBs—there were a total of 46 (13 women) participants.

An expert from RTI facilitated the workshop. The workshop included presentations on the revised MT curriculum, the basics of formative assessment and research methods, and an overview of the regional M&E toolkit. After these presentations, participants reviewed the

existing regional M&E tools to better understand their usefulness at the federal/national level. The tools reviewed included the principal, teacher, and student interviews and classroom observation.

The reviewed regional M&E toolkit was revised in a way to partially work with the formative assessment process at the federal level. In the report generated for this activity and shared with the MOE, it was recommended that MOE decision makers examine the reviewed tools before piloting them in Addis Ababa.

Second-round training on formative evaluation of MT curriculum

READ TA organized the second-round training workshop on formative MT curriculum evaluation for MOE representatives from March 13–17, 2017. Six (one woman) participants from the MOE participated in the CB workshop, which was facilitated by a READ TA/SIL LEAD international reading expert.

A collaborative approach was used to build the capacity of MOE staff. Throughout the workshop, information was presented and discussed, drawing on the knowledge and experience of the participants. During this process, different concepts essential to understanding formative evaluation were clarified. To ensure the quality of the evaluation format, agreed-upon research methods were used and efforts were made to ensure that everyone understood the research framework in the same way.

Formative MT curriculum evaluation follow-up support to MOE

Following training of MOE experts on formative evaluation of MT curriculum, the trained experts were assisted to conduct a desk and field study for formative evaluation of the revised Grades 1–4 Amharic curriculum.

Desk study: The desk study was conducted from April 19–21, 2017, at the READ TA central office in Addis Ababa. MOE experts from CDI, MT and English Language Development, and General Education Inspection and School Improvement Directorates took part. The team used tools from the training to review the Grades 1–4 Amharic curriculum materials and produced a desk review summary report for each grade level.

Field study: Following the desk study, READ TA assisted the team of MOE experts to conduct a field study for the formative evaluation of the Grades 1–4 Amharic curriculum materials. The READ TA R&C Specialists assisted the team to adapt tools to Amharic, which included principal interviews, MT teacher interviews, teacher focus group discussions, classroom observation, student interview questionnaires, and parent interview questionnaires. Consequently, MOE experts collected field data from 12 primary schools in the Amhara Region. READ TA then engaged a consultant who assisted and coached MOE experts in entering, analyzing, and producing a field study report.

Capacity Building Provided for RSEB, ZED, and WEO Experts and Leaders Based on Needs

READ TA also conducted a CB Needs Assessment for five RSEBs and produced a draft report that was validated by the relevant RSEB representatives in Year 3. The validation was accompanied by a CB planning session for RSEBs where participants from the five regions drafted CB plans for their respective region. The READ TA CB team reviewed the regional action plans, keeping in mind READ TA's capacity building mandate. After carefully examining the RSEBs' CB priority needs, the team identified commonly shared needs across all RSEBs and internally discussed these priorities with a focus on their significance in supporting the implementation of the MT curriculum, READ TA's scope, and other factors. Considering these factors, the READ TA CB team agreed to further plan for CB support to RSEBs in the following five thematic areas: (1) training leadership on MT curriculum implementation, (2) M&E of MT curriculum implementation, (3) MT teachers' standard, (4) continuous professional development, and (5) use of ICT, particularly for radio programming.

The team further narrowed down the intervention areas to two themes: (1) training leadership of MT curriculum implementation and (2) M&E of MT curriculum implementation. For the two CB priority thematic areas, a detailed draft plan and schedule was prepared, commented on by USAID, and shared with RSEBs. Moreover, concept notes were prepared to pursue the implementation of the plan. Details on READ TA accomplishments across the two intervention areas are below.

Capacity Building for Educational Leaders to Support Implementation of the Revised MT Curriculum

READ TA's efforts in CB of educational leaders at regional, zonal, and woreda levels was aimed at cultivating more leaders in the education system who understood and supported the implementation of the new MT curriculum. For this purpose, READ TA trained regional-, zonal-, and woreda-level education leaders from the five target regions and four adapting regions (Addis Ababa, Dire Dawa, Harari, and Afar). Overall, a total of 1,242 (83women) educational leaders were trained. Processes that led to the training of the regional educational leaders are described below.

Prepare training materials

An international consultant and two local consultants worked with READ TA's central and regional CB Specialists to develop a communication and support toolkit, as well as other materials in English for the training of educational leaders on the revised MT curriculum. English materials produced during the preparatory workshop were later translated into local languages (Amharic, Af-Somali, Afaan Oromo, and Tigrinya). The materials were not translated to SNNPR local MTs as the Amharic materials can be used in the region.

The developed communication toolkit provided information to guide key education officials in communicating effectively about the curriculum reform. The objectives of the communication activities were to

- increase the number of people in each region who have a basic understanding of the new curriculum,
- highlight ways in which key people throughout the education system can promote and support the implementation of the new curriculum, and
- build greater awareness, enthusiasm for, and support for the implementation of the new curriculum.

Main contents of the communication toolkit include:

A strategic communications framework: An easy to use framework was presented to help regional education officials define their communications objectives, identify the audiences they need to reach, and plan for and carry out the ongoing communications activities that enabled them to meet objectives.

Talking points: READ TA provided succinct summaries of the principles underlying the new curriculum, which can be used when putting together presentations and or discussions about the new curriculum. RSEB, ZED, and WEO officials should become familiar enough with these talking points that they can draw on them to easily offer explanations of the new curriculum.

Frequently asked questions (FAQs): The READ TA team provided responses to many of the questions that different key people in the education system had raised (or may ask in the future) regarding the new curriculum. Again, leaders in the regions should have enough confidence to provide answers like those provided in the FAQs when questions come up about the new curriculum.

PowerPoint presentation: READ TA included a short PowerPoint that presented the information contained in the other materials that regional education officials can use when presenting to different audiences. The PowerPoint contents were meant to cover the essential information, but users of this toolkit were encouraged to modify, adapt, or add to these slides as they saw fit.

Video clips: This component is a set of videos that show some of the basic features of the new curriculum as it is being implemented by teachers and students in Grades 1–4. These can be used as part of communication events and trainings.

Train staff in preparation for regional trainings

After the preparatory workshop for the regional leadership CB trainings, a 1-day training was provided to 18 READ TA regional staff on the developed training materials. The training provided staff with the information required to facilitate trainings for regional education leaders.

Train educational leaders to support implementation of the new MT curriculum

READ TA conducted a series of 4-day regional CB workshops for educational leaders from the five READ TA target and four adapting regions, training a total of 1,242 (83women) educational leaders. Workshop participants received detailed information on the new MT curriculum with special attention on how, from their respective roles, they can support the successful implementation of the curriculum. At the end of the workshops, participants had a defined set of three to five activities (developed based on a strategic communication framework) to support MT curriculum implementation during their day-to-day responsibilities and, especially, in their interactions with other administrators at all levels in the education system, including school principals. Training participants included RSEB and CAEB process heads, deputy heads, process owners, and experts.

Capacity Building for Key M&E Staff in the Regions to Ensure Revised MT Curriculum Implementation

READ TA's CB plan to enhance regional educational leaders' and experts' commitment and capacity to support the implementation of the revised MT curriculum had two aspects. First was building the capacity of regional educational leaders to help them better communicate about the revised curriculum. Second was to enhance regional education leaders' and experts' capacity to properly monitor and evaluate the implementation of the revised MT curriculum from their respective roles. For the second purpose, READ TA trained key regional M&E staff from the five target regions and four adapting regions. Overall, a total of 2,487 (218women) regional M&E staff were trained. Processes that led to the training of the regional M&E staff included the following:

Prepare training materials

Preparations to rollout M&E CB workshops began with preparation of training materials. An RTI M&E Specialist worked with READ TA staff mainly to prepare an M&E toolkit and other resources for regional trainings. Key resources developed during the preparatory workshop included an MT curriculum implementation M&E framework and model, indicators for inputs and outputs of the MT curriculum implementation process, data collection instruments based on the indicators for MT curriculum implementation, and techniques for data analysis and summarization.

Train regional M&E staff to ensure regional MT curriculum implementation

The M&E workshops rolled out to the regions had two levels. Level one was a regional-level consensus-building workshop to update the M&E framework, indicators, and instruments and reaching a consensus on the M&E toolkit with RSEB heads and process owners, RSEB and ZED M&E experts, and MOE representatives. Level two was a woreda-level M&E CB workshop to train woreda and cluster supervisors on how to use the endorsed M&E toolkit to monitor the proper implementation of the revised MT curriculum.

Regional-level consensus-building workshops

Following preparatory activities, READ TA conducted a 3-day regional-level consensus-building workshop in all target and four adapting regions. A total of 255 (24 women) people took part in the workshops to discuss and reach consensus on the proposed M&E framework for MT curriculum implementation, core questions and logical models for M&E, key performance indicators, administration of school-level instruments, and the way forward. After thorough discussion and subsequent modifications on proposed M&E tools to align them with regional M&E context, participants endorsed the tools.

Woreda-level M&E trainings

The other level of READ TA's regional M&E CB plan included conducting woreda-level CB workshops aimed at training woreda and cluster supervisors on how to use the regionally endorsed M&E toolkit for M&E of the revised MT curriculum implementation. In the woreda-level trainings of M&E staff, a total of 2,232 (194women) educational leaders and experts participated (primarily from woredas, but also from RSEBs and ZEDs). Workshop participants identified key departures in the revised MT curriculum from the previous curriculum in terms of principles, approach, methodology, basic components, organization, consideration to G&I, assessment, and support and enrichment. Moreover, participants identified their respective roles in M&E of MT curriculum implementation and compared the proposed MT curriculum M&E framework with the existing system in their respective locality. or

By the end of the workshops, participants knew the basics of the revised MT curriculum and M&E of its implementation. Moreover, they demonstrated a commitment to start on the M&E of MT curriculum implementation right after the workshop. Action plans were prepared by participants to guide their subsequent M&E activities.

Overall, in the regional M&E CB workshops, local capacity was built for 2,487 (218women) educational leaders and experts. The enhanced capacity positioned training participants to better support the implementation of the revised MT curriculum through designing and sustainably conducting M&E activities with results used to inform improvements in the implementation of the curriculum at the grassroots level.

Follow-up Support on the Implementation of MT Communication and M&E Toolkits

READ TA followed up with educational leaders to support them in the implementation of the revised MT curriculum. This included school visits and training of school cluster supervisors from the five regions to monitor implementation of the revised curriculum. Details on these activities are presented below.

READ TA visits to RSEBs, ZEDs, and schools

As part of its effort to build the capacity of educational leaders and experts in the five regions, READ TA rolled out two toolkits (the MT communication toolkit and the M&E toolkit) through large-scale CB trainings that took place in Year 4. In Year 5, READ TA followed up with and supported the implementation of the MT communication and M&E toolkits a regional level.

In preparation for follow-up visits, instruments were developed to monitor MT curriculum implementation at the MOE and RSEB levels. After preparations, READ TA CB specialists and RSEB representatives conducted follow-up visits in their respective regions to check on the status of the newly revised MT curriculum implementation, investigated whether concerned educational leaders provided support, and shared successes, challenges, and lesson learned. Consequently, RSEBs, ZEDs, and schools were visited in all five regions.

Overall, the observations were positive across the four regions in terms of implementing the revised MT curriculum.

- Students were generally comfortable with the stories, illustrations, and activities in the newly revised MT curriculum materials and had a positive attitude toward materials.
- Students tended to be well engaged during group work and other classroom activities.
- Most students brought their SBs to school (except in SNNPR).
- The majority of MT teachers used their TGs and lesson plans when teaching lessons.
- MT teachers reviewed and provided constructive feedback to students on their exercise books.

Although there were differences across regions, the general problems observed in implementing the revised MT curriculum included

- Agreed action points during the leadership CB workshops were not being implemented as promised, except in SNNPR. For example, trained leaders and experts had not shared information on the revised curriculum to school principals and cluster supervisors.
- Cluster supervisors who were trained on the revised MT curriculum failed to orient principals under their support.
- School principals had limited information on availability of the revised SBs and TGs in their schools.
- The school principals and majority of School Cluster Center supervisors had limited or no information about the revised curriculum to provide support.
- Large class sizes, some with as many as 92 students per class, and a shortage of books.
- Limited use of teaching aids, like flash cards, which can be locally prepared. MT curriculum implementation of M&E was not conducted in the regions, except Amhara.
- MT teachers struggled to adopt the new teaching methods in the revised MT curriculum, such as the gradual release model and assessment, support, and enrichment.
- Unavailability of the revised Grades 5–8 SBs. Students who started using the new books in Grade 4 had to use unrevised curriculum books in Grade 5.

Based on the results of the visits, the following recommendations were made to relevant stakeholders to improve the implementation of the revised MT curriculum and achieve its intended purpose:

- In collaboration with the MOE, the RSEBs should solve the remaining shortage of books in its primary schools.
- A strong follow-up and support system needs to be institutionalized by RSEB, ZEDs, WEOs, and schools to ensure proper implementation of the MT curriculum.
- School principals and cluster supervisors who did not take the READ TA-organized training need to be taught how to provide professional support to MT teachers.
- Continuous professional support is needed for MT teachers to implement the lessons and activities according to the TGs.
- Discussion forums for MT teachers in the schools need to be organized and strengthened so that teachers can share experiences and collaboratively identify and solve problems.
- RSEBs should do more follow-up visits to schools to see the status of MT curriculum implementation and provide support.
- Roles and responsibilities of each work process in implementing the new MT curriculum should be reflected in the annual plans of zones, woredas, and schools.
- Mentoring support should be provided to MT teachers at the school and cluster center levels to fill technical gaps noted during classroom observation.

Train of school cluster supervisors from the five regions to monitor implementation of the revised MT curriculum at schools

Although the revised MT curriculum materials were operational, at least for Grades 1–4 in schools in at least the five target regions, READ TA had little data on the quality of the implementation, especially on how teachers were using the TGs and SBs. Hence, in Year 5, READ TA collected monitoring data from the five regions to understand what implementation at schools looked like. As a strategy, school cluster supervisors were selected from the five regions, trained on data collection tools customized from the M&E toolkit, and deployed to their respective schools. READ TA analyzed and shared preliminary findings from the data collected during the National Reading Symposium held near the end of Year 5.

Capacity Building Provided for 3,208 School Cluster Supervisors and Principals

As indicated earlier, in Years 4 and 5, READ TA conducted orientation trainings for educational leaders at RSEBs, ZEDs and WEOs to help them support the implementation of the revised MT curriculum from their respective roles. As per activity design, READ TA was not tasked with training school principals and supervisors on the revised curriculum. This appeared to have been founded on the assumption that educational leaders at RSEBs, ZEDs, and WEOs would reach principals and school cluster supervisors through existing communication/support channels, to help them support the revised MT curriculum.

However, seeing a gap, READ TA adapted its capacity building strategy to include an orientation to the new curriculum for school principals and supervisors under READ TA's no cost extension—the activity was approved by USAID and the MOE. Hence, READ TA conducted an orientation of school principals and cluster supervisors post Year 5, including 3,208 (118 women) school cluster supervisors and principals. Activities that led to this orientation of school principals and supervisors included the following:

Development of training materials

In preparation to orient principals and cluster supervisors, READ TA developed a training manual that aimed to

- equip school cluster supervisors and principals with the basic principles and approaches of the revised MT curriculum and
- provide key tips on how school cluster supervisors and principals can support teachers in implementing the revised curriculum.

Additionally, a PowerPoint presentation was developed in English and subsequently adapted into the various MTs. READ TA used the training materials to conduct master trainer and TOT trainings for the principal/supervisor training.

Training master trainers and trainers of trainers

Following the development of training materials, READ TA selected and trained 11 (1 woman) master trainers for school cluster supervisors/principals orientations in the target regions (except Oromia). The master trainers were selected from among the best performing, previously trained master trainers from the activity's in-service teacher training initiatives. The orientation

- familiarized trainees with basic principles and approaches of the revised MT curriculum and
- provided key tips on how principals/cluster supervisors can support MT teachers in implementing the curriculum.

Due to the prevailing circumstance at Oromia region, master trainers were not trained for Afaan Oromo.

Following the master trainers training, trainers of trainers were trained in READ TA target regions (except Oromia). Master trainers for each MT facilitated a 2-day TOT for 104 trainers (27 women) using the training manual and training PowerPoints.

Training school cluster supervisors and principals

Following the regional TOT, READ TA cascaded the orientation to primary school principals and cluster supervisors in the target regions, except Oromia. School principals and supervisors were trained in several rounds of orientation sessions organized in Amhara, Ethio-Somali, SNNPR, and Tigray regions. A total of 3,208 (118 women) principals and cluster supervisors in the four regions were trained for two days to support implementation of the revised MT curriculum in their respective schools/school clusters.

READ TA worked in close collaboration with the RSEBs and ZEDs to ensure the quality of the training cascade by

- ensuring adequate and timely delivery of training materials,
- holding daily reflection sessions among trainers, and
- conducting checklist-based training monitoring support by READ TA central and regional staff.

Trainers facilitated the 2-day training based on the training schedule prepared for the purpose. In most venues, participants actively engaged in the training sessions and shared experiences. This helped trainees learn about the revised MT curriculum and identify how they can support implementation of the revised curriculum from their respective roles. In addition, participants reflected on the current school-level implementation of the revised MT curriculum in their schools and identified key areas where they can provide practical (on site) support.

READ TA staff monitoring the trainings confirmed that the trainers facilitated the trainings very well. Trainers were observed to have a good mastery of the content, showed efforts to relate content with regional context, and demonstrated attention to all trainees.

Overall, the regionally held orientations were successful in equipping school principals and cluster supervisors with basic information about the revised MT curriculum, approaches, and materials. What is more, principals and cluster supervisors collaboratively identified context-specific strategies to support implementation of the revised MT curriculum.

Producing Strategic Document on Adaptation of New MT Curriculum Materials for Students with SEN

READ TA organized a 3-day national consultative workshop to identify strategic options for the adaptation of the new MT curriculum for students with special educational needs. The main objective of the workshop was to discuss how to make the new MT curriculum materials accessible and beneficial to students with special needs. Participants included MOE and RSEB SNE and MT experts, representatives from disability-focused NGOs and associations, READ TA G&IE Specialists, and other READ TA Addis Ababa staff. During the workshop, national and international best practices were shared by local and international consultants and discussions were held on opportunities, challenges, and the possible roles of stakeholders in the adaptation of the new MT curriculum for SNE students. Following the national consultative workshop, consultants who led the workshop used inputs from the sessions to draft a strategic adaptation document to guide the adaptation of the new MT curriculum for students with special needs. The draft strategic document was submitted to the MOE in Y6, but feedback from the MOE had not been forthcoming.

Produce Example Braille Curriculum Materials for Blind Students

Pursuant to READ TA's effort to improve the accessibility of revised MT curriculum materials, READ TA prepared example materials to demonstrate how existing MT SBs can be transformed into braille materials in Year 5. Hence, the READ TA G&IE team collaborated with R&C Specialists to describe the illustrations found in the Grade 2 SBs with captions, and adapt other necessary elements, including removal of icons and tables. All illustrations in the seven MT Grade 2 SBs were replaced with descriptive captions, making the books ready for translation into braille. During Year 6, READ TA identified a braille printing company, printed prototypes of the example braille materials in the seven MTs, quality assured the braille copies with braille readers, and shared quality assured versions of the braille books with Amhara, SNNPR, and Tigray RSEBs. Although braille prototypes of Grade 2 books were produced in the seven MTs, persons able to read braille were not found or assigned to READ TA for Afaan Oromo and Af-Somali MTs. READ TA also shared the braille materials development process with RSEBs along with a guidance note outlining key steps and considerations while adapting curriculum materials into braille. RSEBs are expected to use the example demonstrated by READ TA to further work on making the revised MT books accessible to students who are blind.

READ TA learned the following lessons in the process of adapting the materials to braille:

- It is important for the MOE, RSEBs, DPOs, READ TA, and other stakeholders who are working on inclusive education to note that students who are blind can be educated and included in mainstream education at a minimal cost.
- Through this example material, awareness was created among stakeholders. RSEBs and association representatives were highly motivated to produce similar materials in their respective organizations. The SNNPR and Amhara RSEBs, SCI, and Light for the World were among the interested groups.

Organizing a National READIng Symposium

READ TA understands the importance of ensuring sustainability of current endeavors towards improving reading and writing. This drove the activity's approach to embedding CB for the MOE, RSEBs, and CTEs in to curriculum revision, pre-service course modules development, and in-service teacher training activities. The READ TA team assumed that the capacity built for the MOE and RSEBs will likely ensure the sustainability of the collaborative effort to improve reading and writing in the early grades.

Apart from such built-in CB mechanisms, in its year 5 work plan, READ TA had planned for a national sustainability workshop with the MOE, RSEBs, and other stakeholders. However, after discussion with USAID, the sustainability workshop grew in scope and participants, transforming into the National READIng Symposium.

READ TA spearheaded the organization of the symposium, which was held for three days in Addis Ababa. The event was jointly organized by the MOE, USAID, and the other READ projects. It was attended by key national and regional education sector officials and experts, including MOE State Minister, Dr. Tilaye Gete. The symposium gathered 182 (47 women) participants from the MOE, RSEBs, CAEBs, Ministry of Finance and Economic Development, Ministry of Culture and Tourism, parliament, all READ projects, and other development partners, with good regional representation from all regions and city administrations.

During the symposium, there were presentations by the READ projects and RSEB heads, group discussions by participants, panel discussions by development partners, and reflections on school visits by regional representatives. The symposium was an opportunity for everyone to reflect on the effectiveness of the current READ interventions, as well as the implementation of and support offered to schools in implementing the revised MT curriculum. The symposium also helped identify measures to strengthen current efforts to address outstanding issues on tailoring reading interventions to the Ethiopian context.

Preliminary findings from an assessment of current MT curriculum implementation at schools was presented by READ TA and deliberated on. The symposium also helped the MOE and regions identify a research agenda and the next steps to strengthening implementation of the revised MT curriculum to effectively improve reading outcomes in primary school children. These next steps included (1) the training of school cluster supervisors and principals, (2) school-level support for curriculum implementation, and (3) revising the training modality for in-service teachers.

Following the symposium, READ TA produced a symposium proceeding document that was shared with the MOE, USAID, and the READ projects. READ TA hopes that the MOE will follow through with its commitments made during the symposium that, if effective, would ensure the sustainability of current reading and writing interventions and yield even better results.

3.2 Progress Towards Indicators

READ TA was very successful in achieving targets set in the activity's M&E plan—most indicators exceeded targeted values. Details on progress towards performance indicators for the activity are outlined are in **Exhibit 5**.

Exhibit 5. Progress Towards Performance Indicators

IR	Indicator	Target	Accomplishment	Remark(s)
IR 1. Reading and writing materials appropriate for primary classrooms and pre- and in-service teacher training developed				
1.1	Number of national MT syllabi, adapted syllabi for the seven activity-supported languages, and English national curricula developed, approved, and adopted for improved learning outcomes from reading and writing instruction in primary grades	18	26	18 MT and 8 English syllabi. MT syllabi were developed per grade level, hence, 8 for Grades 1–8. MT syllabi were developed/adapted in cycles, for Grades 1–4 and Grades 5–8. Hence, 18 syllabi (National English [2], National Amharic [2], and adapted seven MT [14]).
1.2	Number of SBs and TGs developed and print-ready, with US Government assistance.	128	320	112 books for 7 MTs, 192 books adapted versions of the original books for Amharic, Afaan Oromo, Af-Somali languages, and 16 English books.
1.3	Number of effective actions achieved to strengthen and institutionalize the MOE and RSEB capacities to effectively develop, evaluate, revise, manage, and socially market instructional curricula and associated materials for enhanced MT reading and writing instruction in the primary grades	20	83	There could be duplication of effective actions from year to year.
IR 2. Language-specific teaching and learning methodologies and strategies for more effective reading and writing applied				
2.1	Number of master trainers and teacher trainers trained for Grades 1–8 teachers' training on the new MT curriculum	80 master trainers 2,400 teacher trainers (TTs)	103 master trainers and 2,474TTs	As per READ TA's database and progress reports.
2.2	Number of training manuals developed and adapted for in-service teacher training of Grades 1–8 teachers (in 7 MTs) on the new MT curriculum	18	18	16 manuals for MT: English Grades 1–4 (1), English Grades 5–8 (1), 7 MT Grades 1–4 (7), and 7 MT Grades 5–8 (7). 2 manuals for English: English Grades 1–4 (1), English Grades 5–8 (1)
2.3	Number of effective actions achieved in CB of RSEBs to effectively support teacher training and enhanced classroom instruction for improved reading and	12	41	There could be duplication of effective actions from year to year.

IR	Indicator	Target	Accomplishment	Remark(s)
	learning outcomes in the primary grades.			
IR 3. Language teaching and learning supported by appropriate technology and teaching aids				
3.1	Number of CTEs which have received and are using multimedia teaching aids for teaching reading and writing for Grades 1–8 in 7 MTs	36	36	The CTE target was adjusted to a final of 36 throughout the activity lifetime as new CTEs were established.
3.2	Number of supplemental teaching and reading promotional aids developed for improved teacher training or reading instruction in 7 MT languages or English	20	23	The list includes Grades 1–8 model teacher videos, Papaya in 7 MT, 8 TLL episodes, 8 PSAs, the audio companion, English SRMs, 7 MT SRMs, English books donated to SCCs, and IMLPs in 7MT.
IR 4. Technical assistance support to RSEBs and MOE for institutional improvement				
4.1	Number of pre-service teacher training modules developed and adapted for pre-service teacher training in 7 MTs	32	56	Seven pre-service course modules were developed in 8 languages (English and 7 target MTs).
4.2	Number of CTE teacher educators who successfully completed training on how to teach the revised course modules for reading and writing in MT	150	210	Over the years, the number of unique CTE teacher educators who participated in training of at least 40 hours will have been higher.
4.3	Number of administrators trained from RSEB and MOE in planning, monitoring, leading, and communicating for MT curriculum implementation	2,500	6,233	This figure includes MOE, RSEB, and WEO experts and leaders trained for both target and adapting regions. The figure also includes school cluster supervisors and school principals trained.

3.3 Unmet Targets

The activity has made every effort to complete all planned activities as per its scope of work and annual implementation plans. As detailed in this document, READ TA also took on and successfully implemented additional large-scale activities, such as the Grades 1–4 book printing and training more than 113,000 teachers through grants with MOE. However, due to the Oromia regional state's decision to suspend the implementation of the revised curriculum and related activities, the following activities were not implemented as planned.

Share Findings and Recommendations from ATCBI in Oromia

Although READ TA implemented the ATCBI pilot in the Oromia region, the activity was not able to share evaluation results from the pilot implementation with regional stakeholders for Oromia. This was because the Oromia region's decision to suspend the implementation of Afaan Oromo curriculum materials came during the activity's schedule to share the evaluation results. As a result, the Oromia RSEB refrained from conducting a regional sharing workshop. However, the Oromia RSEB representatives were part of the national ATCBI results sharing workshop that was conducted before the regional workshops.

Quality Assurance and Submission of Example Braille Material in Afaan Oromia and Af-Somali

With the intention to demonstrate how the revised MT curriculum materials can be made accessible to blind students, READ TA led an activity that adapted the Grade 2 SBs in the seven MTs to braille. The braille materials were quality assured for all MTs, except Afaan Oromo and Af-Somali. The Af-Somali braille materials were not quality assured due to unavailability of a person able to read braille in that language.

Printing and Distribution of CTE Modules in Oromia

READ TA distributes hard copies of pre-service modules once the modules are final. However, READ TA's distribution of hard copies of Modules 4, 5, 6, and 7 did not include the Oromia region.

Training of Master Trainers, Teacher Trainers, and School Principals/Supervisors in Oromia

The Oromia region was assigned a quota for training master trainers and teacher trainers for Grades 5–8, which happened towards the end of the activity. Similarly, READ TA had plans to train school principals/supervisors from Oromia region. However, the trainings did not take place as planned.

4 CHALLENGES

READ TA was successful in achieving activity targets—in some cases, it even exceeded set targets. However, the activity's success was not without challenges. READ TA has reported these challenges on a regular basis in its progress reports compiled throughout the five years of implementation. Thus, in this final report, only major challenges were large hurdles and/or reoccurred are discussed.

Registration Challenges: Meeting ChSA Requirements

RTI faced delays in registering with ChSA, which has the mandate to register and monitor activities of charities and societies working in Ethiopia. Several factors contributed to the delay in registration that revolved around the extensive requirements for registration, which were difficult to generate (e.g., need for an agreement signed with line offices/ministry, challenges with opening bank accounts, bank signatory requirement). This challenge also extended to a requirement to sign an MOU with the MOE, which conflicted with RTI's agreement with USAID and USAID's bilateral agreement with the Government of Ethiopia.

RTI received ChSA registration approval on May 13, 2013, pending submission of 12 additional post-registration documents, which were completed within two months (i.e., July 2013). However, the delay in registration placed hurdles for on activity start-up and follow-on activities. Because the READ TA activity was not registered for such a long period, staff had to be employed as consultants, which led several potential staff to decline their formal offers of employment. Furthermore, the delayed registration created problems with availability of funds for activities—a ChSA regulation meant the READ TA team was not allowed to spend more than \$2,500 before the registration. As a result, it was impossible for READ TA to rent office premises, procure furniture and equipment, recruit staff as full-time employees, or hold events and activities. The issue remained a challenge through Year 3 when even with registration pending, READ TA was unable to open regional bank accounts or update signatories on its accounts.

Delay in Obtaining Approval for Year 1 Annual Work Plan

The READ TA annual work plan had to be approved by the MOE and RSEBs, which was a challenge during activity start up. During start up, the MOE and RSEBs' review and approval of READ TA's annual work plan took more than three months. This contributed to delays in start-up activities and effected subsequent activities.

MOE and RSEB's Busy Schedule

The MOE and RSEBs had a busy schedule that affected scheduling READ TA activities in a timely manner. Illustratively, during Year 1, the national consultative meeting to validate draft MT syllabi was postponed three times because the MOE had other priorities that took precedence. This and similar delays caused further obstructions to the timely implementation of activities, which could only be conducted after MOE and RSEB reviews, validation, and approval.

Challenge to Achieve Equal Participation by Women in READ TA Workshops and Activities

Despite READ TA's continued efforts to encourage the participation of women in READ TA meetings and workshops, getting women to participate was a challenge. This applied to workshops, such as for MT curriculum materials development, pre-service MT course modules development, and MOE and RSEB CB trainings. For example, despite READ TA's recommendation of at least 25% participation by women in Grades 1–4 MTCD and special provisions to encourage women participants, women's participation was very low in all seven MTCDs.

Challenges of Working to Support Non-Standardized MTs

Working to support curriculum materials development in MTs that had not yet been standardized was a serious challenge in terms of materials developed and the time needed for the task. Illustratively, during the Grades 1–4 MT curriculum development process, time consuming deliberations among MT experts on the spelling of words contributed to delays in lesson development. Similarly, READ TA witnessed disagreements among MT experts on recorded letter/syllable sounds. Hence, the READ TA team had to re-record some letters/syllables that were disputed.

Difficulty to Obtain Accurate and Timely Data to Plan Activities

Activities had to be planned based on accurate and timely data. Therefore, READ TA relied on data from the MOE and RSEBs to plan for trainings of teachers, principals, and supervisors to ensure that there were enough master trainers or teacher trainers trained in correlation to the number of actual teachers or principals. Unfortunately, the MOE and RSEBs did not have a strong data management system, which meant that data was not immediately available, nor was it always accurate or timely. This affected READ TA's effort to plan for activities based on reliable data. One key example was the training of Grades 1–4 7 MT master trainers and teacher trainers. Based on the initial data provided by the MOE and RSEBs, READ TA understood that it had completed all trainings in Year 3. However, the READ TA team later learned that the initial number of teachers given to the team by the MOE and RSEBs was not correct and there remained untrained teachers in the regions. Hence, READ TA had to train additional master trainers and teacher trainers to bridge the gap.

Lengthy MOE and RSEB Approval Processes

The time lapse between submitting materials to the MOE and RSEBs and getting their approvals created delays in several activities. Notably, this affected the timeline of the English curriculum revision, production of TLL episodes, and implementation of MT teacher mentoring approach and pilot. Although the MOE and RSEBs eventually provided approval for these activities, decisions often came late and strained the READ TA team's ability to conduct activities.

Daily Subsistence Allowance (DSA) Regulations Pertaining to the Per Diem Limits Reducing Turnout of Participants at Workshops

Workshop participants were often unhappy about the DSA rate used by READ TA. Grievances from workshop participants grew after the Ministry of Finance and Economic Cooperation formalized and put into practice a new DSA regulation in May 2016 which pertained to per diem limits. For instance, during the last four rounds of CB training in the Oromia region, participants were highly dissatisfied with the revised rate, which they mentioned in their daily training evaluations collected during the workshops.

Problems Getting the Necessary Participants to Workshops

Despite READ TA communicating the selection criteria for workshop participants, some workshop participants still did not meet the requirements. This was especially problematic for the pre-service module development and adaptation workshops that required specific skills for each language. Some participants also lacked a sufficient command of English, which limited their ability to understand the instructional resources and develop the English version materials. The READ TA team also noted human capacity constraints in the development of the English curriculum materials, which led to quality challenges.

Security Issues in Oromia Region and Subsequent Decision to Suspend Curriculum Materials

Oromia's READ TA activities stalled for some time in Year 4 because of public unrest and related security problems. The major implication of the security issue was READ TA's inability to conduct the Oromia region M&E staff CB workshop in Year 4, as planned. This challenge was further complicated when the Oromia region decided to suspend all READ TA-supported curriculum materials. Therefore, READ TA was not able to conduct additional activities planned for the region.

Unclear Information Regarding the Disposition of READ TA Property

During activity closeout, the READ TA team experienced several delays in the disposal of READ TA property because of the uncertainty around applicable ChSA regulations in relation to RTI's cooperative agreement with USAID, how to manage damaged property in light of those regulations, and the process for obtaining ChSA concurrence. The uncertainty led to multiple communications between RTI, USAID, ChSA, and the anticipated recipient of the property, which resulted in delays in property transfer and final Addis Ababa office closure.

5 LESSONS LEARNED

In READ TA's efforts to achieve activity goals and deliver quality outputs, the READ TA team learned many lessons, which were used to subsequently increase efficiency and effectiveness in delivering quality outputs. The major lessons from READ TA are discussed below.

5.1 Overall Lessons

Coordination among READ TA Implementing Partners Avoids Overlaps

A reoccurring READ TA challenge was overlapping activities by READ TA partners that made it difficult to get the right people from RSEBs and the MOE to participate in workshops and events. This was noted on several occasions; therefore, to help address this challenge, RTI led coordination meetings with partners met and discussed how to work closely and avoid overlaps in activities. The meetings led to improved collaboration between READ TA implementing partners.

Increased Stakeholder Participation and Collaboration Increased Local Ownership

READ TA worked tirelessly to involve the MOE, RSEBs, and other stakeholders in almost all activities conducted during the activity. This led to gains in increased local ownership and, it is hoped, will contribute to sustainability of improved reading and writing performance by primary students. READ TA's implementation planning process reflected the increased level of stakeholder engagement promoted by READ TA since the MOE and RSEBs heavily participated in drafting annual work plans. Such engagement improved local government ownership of activity efforts, which was evident in remarks from high ranking MOE officials in meetings and workshops. READ TA regional offices also advised that they had good relationships with RSEBs and that the joint planning helped enhance their partnerships by contributing to the smooth implementation of activities in the regions. RSEBs also provided office space for READ TA regional offices, while MOE and RSEB representatives were involved, as applicable, in the recruitment of READ TA staff.

Participatory approaches to MT materials development built local capacity and helps scale-up activity efforts

READ TA's implementation approach mainstreamed capacity building of MOE and RSEBs staff. As READ TA activities were conducted in consultation and participation of leaders and experts in the education system, CB took place experientially. Illustratively, several regions scaled-up READ TA's approaches in MT materials development to new languages. This was evident in Amhara, where the RSEB worked to develop MT curriculum materials in two regional languages, Himtigna and Awigna, and employed READ TA's approach to reading and writing curriculum materials development. SNNPR also developed MT curriculum materials in 17 other local languages based on their experiences through READ TA. Although involving RSEB and MOE experts in READ TA processes was time consuming and costly, the resulting collaboration underpinned READ TA's technical assistance (rather than direct implementation) mandate.

Early planning of the activity handover helped for ensuring gradual takeover and sustainability

Anticipating the benefits of early action on activity handover, READ TA started the handover process of activity goals to the relevant government counterparts, i.e., the MOE and RSEBs, at an early stage. This led to internal planning sessions that helped for smooth and gradual handover of activity initiatives and sustainability. Although it is still too early to measure success, READ TA believes its early start on handover resulted in practical measures that the MOE and RSEBs acted on and nurtured during the last year of activity implementation.

Developing "Expert's Directory" to assist future activities and learning

READ TA worked with various local and international experts who gained extensive expertise, while contributing to READ TA activities. READ TA recognized that it would be extremely helpful for the MOE to have a list of names, professional profiles, and contact information for experts who worked with READ TA for the MOE's use in future, potential contact, especially for learning needs. Illustratively, this was deemed particularly critical for MT experts, as their expertise could serve future initiatives to improve reading and writing, including in other languages. Therefore, as part of READ TA's knowledge management efforts, the READ TA team compiled an Expert Directory and submitted it to the MOE.

Specifically tailored pre-workshop assessments are more helpful than generic assessments

READ TA had pre-workshop, daily, and end-of-workshop assessment forms with generic content. The forms helped the READ TA team understand the skill level of workshop participants and informed the activity's adjustments to workshop delivery. For example, during the cluster supervisors' workshop for MT curriculum monitoring, READ TA prepared a pre-workshop assessment form that was tailored for that specific workshop. The training involved the use of technology and it was important to assess participants' familiarity with the technology items in advance. The feedback obtained from pre-workshop questionnaires was so informative that it enabled workshop facilitators to make the necessary adjustments on content, time, and depth of training to ensure that the training met its objectives. Hence, READ TA learned the benefit of preparing specifically tailored workshop assessment forms whenever possible.

5.2 Lessons Learned from MT Curriculum Development

Prior Collection of Content Resources Facilitates Material Development

Collecting content resources prior to material development was one of the activities undertaken by READ TA before developing the Grades 5–8 MT curriculum materials. This was a key part to facilitating the actual materials development, resulting in a more efficient process.

Working with Language Standardization Initiatives Clears MT Material Development Hurdles

Another lesson learned in curriculum materials development was the importance of working with local language standardization initiatives. In working to develop MT curriculum materials where there were regional variations in a language and an intention to develop curriculum material that accommodate all variations, READ TA found it important to work with local language standardization committees to standardize the language and accommodate the variations. Such effort was a good practice that helped clear confusion in developing MT curriculum materials. Illustratively, READ TA worked with the Oromia National Language Standardization Committee in developing the Grades 5–8 Afaan Oromo MT curriculum materials in Year 3.

Decentralizing curriculum materials development fosters skill transfer

READ TA learned the importance of decentralizing curriculum materials development to regions where the MTs are spoken. This was seen in READ TA's experience in Year 3 where the Grades 5–8 curriculum materials were developed in the regions, compared to the Grades 1–4 MT curriculum materials that were developed centrally in Addis Ababa. Regional development helped foster materials development skill transfer to other local MTs in the regions (e.g., the Grades 5–8 Amharic MT materials development took place in the Amhara region and inspired the region to start developing curriculum materials for other MTs spoken in the region), and resulted in a more efficient ongoing development, review, and revision process.

Curriculum materials development exercise contributes to standardization and development of MTs

The participatory approach READ TA employed in developing curriculum materials appears to have contributed to the standardization and development of MTs. With READ TA's introduction of a new way of developing curriculum materials that used MT curriculum development teams to pool MT expertise and produce quality materials, the process indirectly contributed to the development and standardization of the languages involved.

Ensure development teams are complete, capacitated, and based near the RSEB

During the development of Grades 1–4 materials, there was a long discussion between READ TA and the MOE about how to ensure that all the needed capacity would be available for the full development process—from content drafting, story-writing, and illustration to design, review, and finalization. Ultimately, the decision was made to undertake design and illustration centrally (i.e., in Addis Ababa) to ensure the READ TA team found qualified designers and was able to manage production simultaneously at multiple locations. However, it soon became apparent that it was difficult to have a centrally located design/production team interface and communicate sufficiently with RSEB-located writing/content development teams. As a result, the core writing teams were brought to Addis Ababa to be close to the illustrators and production/design team. Unfortunately, this resulted in the RSEBs feeling disjointed from the process and unable to fully participate in ongoing quality assurance. In addition, there were objections from the RSEBs about the illustrators not having enough cultural or regional experience to ensure that the illustrations represented the local context. This resulted in many rounds of illustration edits to correct the artwork.

Reflecting on this process, the MOE and RSEBs, together with READ TA, decided that for the Grades 5–8 materials development process, it was necessary to ensure that every language/RSEB had a full team, including designers, illustrators, writers, and quality assurance staff in place.

Although having a full materials development process mirrored simultaneously in multiple locations did present management challenges, the resulting product was beneficial in terms of the speed with which materials were finalized and the satisfaction of RSEB officials and other stakeholders. To manage the process, central-level experts on writing/content development, production, and IT (for file storage/management) provided initial trainings for the teams, travelled to support the teams, managed the process, and provided remote support from Addis Ababa. Further, for book production, teams assured all books were finalized into print-ready copies.

Set a realistic timeline and balance deadlines with quality assurance

Most of the biggest challenges, as well as dissatisfaction, shared by stakeholders during the reflection meeting was a result of (1) an unrealistic timeline from the outset, which did not fully consider validation and approval processes and (2) less flexibility to change scheduled milestones (such as field-testing) even when it was clear that the materials were not at an acceptable level of completion. The timeline must take into account the required validation and approvals processes, as well as the time after these processes that it takes to integrate recommended changes. During the Grades 1–4 process, deadlines for the field test were set and not changed even though the materials development process had not advanced sufficiently on the initially set, over-optimistic timeline. As a result, for some languages, the materials tested were not at the level of quality the READ TA team desired. Although teachers were still able to test the materials and provide useful feedback, some of their feedback focused on editorial issues that would have been resolved had there been more time to ensure the lessons were in print-ready quality.

Similarly, the first round of adaptation was scheduled earlier than ideal and the adaptation teams were initially shown material that was not yet quality assured, with the rationale that this would provide an initial idea as to how extensive the adaptation changes might be. Although adaptation was, ultimately, postponed, there was initially criticism by the adaptation teams around the quality of the material, which was eventually managed when the teams reviewed the final material. In sum, the hope to save time by starting the adaptation process early was not beneficial.

The Grades 5–8 materials development process benefitted from experiences made during the Grades 1–4 process. It took approximately six months from initial training of the development teams to print-ready copy finalization (including field testing and validation/approval processes but excluding the time needed for identifying and onboarding all team members for all languages). It can be challenging to strike the correct balance between not enough and too much overcorrecting. However, by beginning with a realistic timeline, and recognizing obstacles that may be outside of the ability of the development team's control (such as losing team members during the development period), a reasonable balance can be achieved.

Keep it simple and pilot templates, instructions, and other support material

During all stages of the process, templates, checklists, and similar supporting materials were provided by the teams involved in syllabi revision, scope-and-sequence development, and materials development/production. At the beginning, some of these materials were too complicated. For example, the initial scope-and-sequence template was developed and shared in Microsoft Excel but once teams began using it, many did not have the Excel skills necessary to correctly manipulate the template. During the process, a simpler Microsoft Word version was developed. Over time, the management/technical support teams adjusted, simplified, and fine-tuned various materials but because this happened while the development process was in progress, it sometimes caused confusion. However, this situation was somewhat improved during the second phase of materials development (Grades 5–8). It is worth noting that, again, allowing for sufficient time to develop (or revise/adapt) templates and support materials and having a process for testing those templates (much like field testing the materials) could be beneficial for a smoother development process.

5.3 Lessons Learned from the READ MT Package

Efforts in Supporting MT Instruction with Technology Require Instituting Strong Support Systems to Ensure Utilization of Introduced Technology

READ TA employed participatory approaches to identify appropriate technologies and applications to support pre-service MT instruction at CTEs. It also built the initial capacity for the MOE, RSEBs, and CTEs on the technology package introduced. A tiered support system was officially instituted to enable MT instructors to access ongoing support from CTE ICT staff, RSEB ICT contacts, and the MOE, depending on the severity of problems encountered. However, READ TA noticed weak links and capacity gaps among segments of the support system that needed to be addressed to ensure the

system functioned properly. In recognition of this, READ TA organized additional practical and theoretical trainings for CTE ICT Officers. READ TA also extended ongoing support to further reinforce the MOE and RSEBs' capacity to comfortably takeover the technology initiative and sustain it at the CTEs. As a result of changes in assigned MOE units to engage in READ TA technology activities, the READ TA team was not able to achieve full handover of Tier 3 technical support to the MOE as originally planned. The simplification of the content delivery platform, by providing additional hard drives with all content of the READ MT package to re-image MT lecture tablets, however, solved capacity limitations in server maintenance and support.

5.4 Lessons Learned from In-Service Teacher Training

Train Reserve Master Trainers and Teacher Trainers to Ensure Sufficient Support

The teacher training conducted in Year 4 provided the following key lessons for all actors: the importance of effective planning, early preparation, close follow-up and support; and the necessity to involve high-level education officials at all levels for better outcomes, even if it requires additional communication and scheduling efforts. The most crucial lesson, however, was the need to train an additional number of master trainers and teacher trainers to keep on reserve and deploy in the event of a trainer shortage.

Monitoring Venues before the Start of Teacher Training Better Informs Grant Administration

The availability of training materials at teacher training venues continued to be a challenge not only for the activity but also for READ TA-administered teacher training grants. Hence, there is a need to confirm the availability of training materials for proposed training venues ahead of the trainings. This was ultimately achieved by deploying READ TA teacher training monitors.

Assigning Focal Persons from Adapting Regions Helps Facilitate Teacher Training Implementation

Assigning focal persons in adaptive regions and closely following up on regional trainings enabled READ TA to minimize implementation problems. Daily evaluation of the training sessions with training coordinators, master trainers, and teacher trainers also allowed the READ TA team to solve program and administration issues without affecting training implementation.

5.5 Lessons Learned from Pre-Service Course Modules Development and Teachers' Training

Engaging External Reviewers on Material Development Improves the Quality of Products Produced

READ TA/FSU engaged external reviewers to revise pre-service modules. Modules that went through an external review process were better in various ways, including alignment of the adapted versions of modules with their English versions and ensuring that conceptual deviations were almost non-existent between MT- and English-version modules.

Potential Benefits of Establishing Reserve MT Experts

The quality of materials produced for improving reading and writing in MTs hinged upon the competence of the professionals who engaged in the material development activities. Unfortunately, many participants sent by regions for material development workshops did not always have the necessary skills to produce quality materials. Therefore, it is important to create a pool of CTE instructors, as well as RSEB and zone members, who can complete the identified tasks with high quality. This facilitates a more timely completion of activities and avoids compromises with quality.

Training Quality is Enhanced by Separately Conducting Teacher Educator Training on Newly Developed MT Modules Based on Scripts

During the teacher educator training for the first four newly-developed modules, READ TA trained teacher educators from the seven MTs without considering the type of scripts used by the MTs for grouping training sessions as a grouping mechanism. However, READ TA tested a new approach to train teacher educators while conducting Module 5 training. The new approach was to separately train teacher educators based on the type of script used in the MT modules they teach. This meant that module training was divided into two rounds and into groups of Saba script languages (Amharic and Tigrigna) and Latin script languages (Afaan Oromo, Af Somali, Hadiyyisa, Sidaamu Afoo, and Wolayttatto). This approach enabled the training to be more manageable in size and allowed more interaction between trainers and participants. Logistically, this model worked extremely well and permitted the training to be held at a smaller venue than previous trainings. Moreover, the focus on a specific script facilitated intense discussions of linguistic concepts related to the Saba-and Latin-based languages and writing mechanisms. Therefore, training on Modules 6 and 7 was conducted using this method, which resulted in similar good outcomes.

Working to Simplify or Consolidate Module Sections that Require More Time Helps Achieve Full Coverage of Module Content

For most pre-service course modules developed with the support of READ TA, instructors and students did not believe they could cover the entire content of the module in one semester. The students advised that because they take five or six other courses, they had limited time to read the module. Additionally, the instructors provided mixed reviews—some were more confident than others in teaching all the content in the modules. Further, some instructors missed classes because they were in meetings, workshops, etc., and these classes were not made up or taught by another teacher. Hence, in revising modules, it was necessary to consider the allotted time to teach, as well as simplify or consolidate some of the sections that require more time on task. The implementation of structured M&E activities strongly enriched this understanding, allowing for effective revisions.

Clear Articulation of Comments Helps Module Revision

In the review of pre-service course modules, CTE instructors stated that there were confusing ideas, unclear instructions for activities, and incorrect information. In such instances, it was good practice to let instructors clarify whether the issue was with the English version of the module or its MT version. This saved time in revising the modules after pilot implementation. Another key lesson learned for module review was the need to include linguists (who worked on the use of appropriate and relevant words) in the review process. In addition, careful grouping of workshop participants based on the organizer's knowledge of participants' skills, past performance, and content knowledge rendered module review workshops more effective.

6 RECOMMENDATIONS

The following recommendations are based on the life of the activity and RTI's experience in the overall management of READ TA.

- The registration process with ChSA took longer than anticipated. READ TA might have been better implemented at the beginning if it had registered as a bilateral with the Ethiopian Government.
- The daily subsistence allowance rate regulation by the Ethiopian Government caused dissonance among workshop participants, which in some cases delayed activity implementation. As a result, MOE and/or RSEB should have oriented participants who came from the Ministry and regions about the allowance rate before they started any activity with READ TA.

- There was no focal person at the MOE with whom READ TA could discuss challenges with in a centralized manner. The existing Planning and Resource Mobilization Directorate, responsible for coordinating government partners like READ TA, is horizontally linked with other directorates with which the activity worked. Despite repeated efforts by the READ TA team to address this issue with MOE, the dynamics in the Ministry did not allow for its resolution. As a result, the Directorate was unable to adequately address the issues and, in some instances, this caused delays in decisions from the Ministry. A focal person at the MOE who followed READ TA activities might have diminished this hurdle.
- Given the limited time available to train primary-level MT teachers and the urgency of introducing the revised curriculum materials to schools immediately after development, USAID and the MOE decided on a one-time 10-day cascaded teacher training model. RTI had, however, suggested a model breaking up the teacher training into three 3-4-day training events over the course of one year, based on empirical evidence and RTI's experience elsewhere. While time and resource restrictions limited this option at the time, it likely would have yielded stronger results in classroom implementation of the new MT reading curriculum in later years.
- READ TA was designed as a high-level technical assistance activity. The activity aimed at developing essential curriculum inputs and capacity for implementation and monitoring. Given READ TA's tremendous material development effort, which resulted in 320 unique book titles, there was an ongoing tension between building capacity, developing quality books, and meeting tight timelines. Aggravating this situation were the externally imposed deadlines for submission of the print-ready files. These deadlines were driven by the General Education Quality Improvement Project which was responsible for book printing and distribution. As a result, the READ TA material development efforts not only required significant financial investment, but also stretched READ TA's human resources to the limit over prolonged periods of time. For future activities, a more realistic, carefully negotiated timeline between the implementer, USAID, and MOE at the outset might help clarify expectations, promote a more sustainable balance between building capacity and developing quality books, and help mitigate the challenges related to externally imposed deadlines.
- Systematic classroom-level implementation of the new MT curriculum for reading instruction was not part of READ TA's mandate. While the scope of work of the complementary READ M&E and READ CO projects entailed classroom-level and community-level activities, none of the programs was directly responsible for preparing the implementation of the revised reading curriculum at classroom-level, and supporting national scale up. This could have entailed incremental collaborative learning activities aimed at optimizing the model for scale up. Instead, the READ program was designed for immediate national roll-out with little opportunity for testing. This approach limited the opportunity to learn important lessons early on, e.g., regarding the engagement of school leadership, which later presented a barrier to implementation.
- Related to the above, none of the READ projects was explicitly designed to build school leader capacity. In consultation with MOE and USAID, READ TA, recognizing this gap, used some remaining funds in its last year of implementation to conduct an orientation training with over 3,000 principals and school supervisors in four of the target regions. While this effort helped mitigate some of the barriers to curriculum implementation at the school level, it likely would have been more effective to implement school leadership engagement initiatives earlier, ideally in conjunction with teacher training activities.

ANNEX: SUCCESS STORIES

Annex A: READ TA's Local Capacity Building Helps Expand Reading Curriculum Reform in Other MTs in SNNPR Region

READ TA built the capacity for more than 200 local experts. This worked has helped expand development of improved MT curriculum materials in other languages.

Ethiopia has more than 17 million children enrolled in its 33,000-plus primary schools.³ Following constitutional reform that legitimized children's right to learn in their mother tongue (MT), the majority of primary school children in Ethiopia learn through their own MT. Out of more than 86 MTs spoken in Ethiopia, 51 serve as a medium of instruction in primary schools, where the majority, 32, languages are available in the SNNPR region.⁴

Despite the opportunity to learn in their MT in primary school, children struggled to read and write in their MTs, as evidenced in results from the 2010 Early Grade Reading Assessment (EGRA) and other national reading assessments.⁵ This necessitated a reform in the national MT curriculum and development of new books that improve reading and writing. Hence, the US Agency for International Development (USAID)-funded Reading for Ethiopia's Achievement Developed Technical Assistance (READ TA) activity, implemented from October 2012–January 2018, provided financial and technical support to the Ethiopian Ministry of Education (MOE) and Regional State Education Bureaus (RSEBs) in revising the primary-level national MT curriculum and developing new Grades 1–8 curriculum materials in seven MTs to improve reading and writing performance among primary school students.

While revising curriculum materials for Grades 1–8 in seven MT, READ TA also built the capacity of more than 200 local experts. This work has inspired the improvement of MT curriculum materials in MTs outside the activity's scope. In 2016, the Amhara region set an example by expanding READ TA curriculum revision efforts to two MTs spoken in the region other than Amharic. A huge accomplishment, however, came in 2017 from the Southern Nations Nationalities and Peoples' Region (SNNPR), which developed improved reading and writing curriculum materials in 17 more languages using the skills provided by READ TA.

"We got requests from zones and woredas to support development of improved books in mother tongues spoken in their respective location," said Ms. Enanu Bizuneh, SNNPR region expert for MTs. Ms. Enanu continued, "We therefore used local experts who worked with READ TA to train teams from 24 mother [tongues] for 10 days. Following the training and subsequent follow-up support we provided, teams for 17 mother [tongues] developed Grades 1–4 student books and teacher guides following READ TA's curriculum materials development approach. The books will reach students during the next academic year."

MT Books Developed/Adapted by Regional Capacity

- Dawroigna
- Dizigna
- Gamogna
- Gediofa
- Gofigna
- Kafinono
- Keбенigna
- Kembatasa
- Kontgna
- Libidigna
- Oyidigna
- Shekinono
- Shekogna
- Siltigna
- Tembarogna
- Yemsa
- Zeyisigna

MT Books Developed/Adapted with READ TA Support

- Amharic
- Hadiyyisa
- Sidaamu Afoo
- Wolayttatto

³ Ethiopia Ministry of Education. (2016). *Education 2007 E.C. (2014/15)*. Retrieved from <http://www.moe.gov.et/statistics>

⁴ Ethiopian Ministry of Education, Mother Tongue and English Language Development Directorate. (2017). *Mother Tongue Languages Used as a Medium of Instruction in Ethiopian Primary schools* (unpublished document).

⁵ READ TA. (2013). *Reading and language learning in the early grades: Key findings of the Ethiopian National Learning Assessments and Early Grade Reading Assessments*.



Ms. Enanu Bizuneh, SNNPR region expert for MTs

Photo courtesy of Hailu Melesse/READ TA

Encouraged by the results for Grades 1–4, the SNNPR region also provided a 10-day training to the 17 MT teams to help them expand curriculum material development for Grades 5–8. The region is also supporting seven other MT teams to develop improved MT books. Impressively, the region was able to adapt the Grades 1–8 Amharic curriculum materials to alternative basic education schools in two zones: Bench Maji and Debub Omo. Overall, the region spent more than \$74,000 in the development of MT books in more local

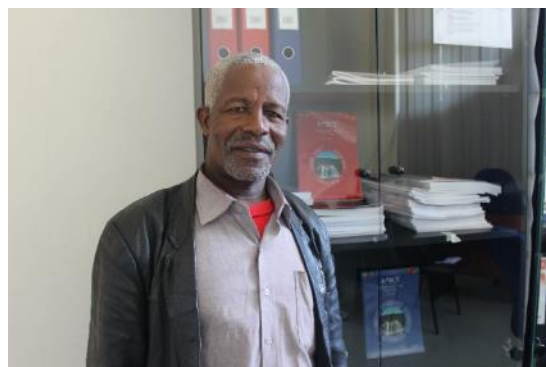
languages.

Although there are 32 MT languages in the SNNPR region that are used as a medium of instruction, READ TA was only

able to help revise curriculum materials for four languages. However, knowledge and skills transferred during the curriculum materials development for the four languages ensured expansion of the curriculum reform to the remaining MTs in the region. Such regional initiatives in the development of curriculum materials in other MTs prove the effectiveness provided by READ TA's capacity building activities.

Annex B: READ TA Helps Scale-up Curriculum Materials Development in Mother Tongues by Building Local Capacity

The US Agency for International Development (USAID)-funded Reading for Ethiopia's Achievement Developed Technical Assistance (READ TA) activity was initiated in October 2012 in response to alarmingly low early grade reading performances in mother tongues (MTs). Prime implementer, RTI International, collaborated with six implementing partners, the Ethiopian Ministry of Education (MOE), and Regional State Education Bureaus (RSEBs) to successfully develop improved Grades 1–8 student books and teachers' guides in seven of the most widely spoken MTs in Ethiopia by using proven approaches known to show fast results in students' reading performance. Additionally, READ TA built local capacity while developing MT student books and teachers' guides for improved student reading outcomes.



Chalachew Gelaw, Regional Mother Tongue expert, Amhara Region Education Bureau.

Photo courtesy of Hailu Melesse/READ TA

“We know that READ TA will not be here forever, but the capacity built for our region will remain an asset...”

READ TA's participatory approach and close collaboration with the MOE and RSEBs throughout the materials development helped transfer knowledge and skills to local experts, which in turn helped local experts develop their own curriculum materials in MTs that READ TA was not able to support.

Amhara Regional State is one of the five regions READ TA worked with to develop Grades 1–8 curriculum materials in the Amharic MT. The Amharic curriculum materials development process, like development for the other six MTs READ TA supported, was conducted by teams of local experts, including those representing RSEBs. Once the Amharic curriculum materials were developed, the Amhara Regional State Education Bureau took the experience gained from working with READ TA and, using its own resources, developed curriculum materials for two other regional MTs: Hintana and Awigna. Following best practices from READ TA, the RSEB selected experts in the two languages, trained the selected experts on the READ TA model of MT curriculum materials development, and assisted them to produce Grades 1–8 student books and teachers' guides in Hintana and Awigna languages.

Mr. Chalachew Gelaw is an Amhara RSEM MT expert who helped transfer the knowledge and skills he gained from active involvement in the READ TA-supported curriculum materials development to the Hintana and Awigna MT experts. Mr. Gelaw explained, “We started with ensuring that experts with experience in the respective mother tongues were selected. Then we organized a 3-day training to the selected experts on READ TA's approach to MT curriculum materials development and supported initial adaptation work by the experts for about a week. The experts went back to their towns and produced the books for Grades 1–8, which were validated by other experts who spoke the mother tongue[s]...”.

Mr. Gelaw noted that because the Amhara RSEB wanted the Hintana and Awigna experts to adapt the already produced Amharic curriculum materials to their respective mother tongues, their training focused on the approach, methodology, organization, illustration, text type, adaptation strategies, alignments between student and teacher guides, and other elements important to adapt the work properly. He added, “The mother tongue experts for the two languages took the lessons and conducted the adaptation work taking the necessary [precautions] to follow the structure, grammar, and style of their respective languages.”

After the adaptation work for the Grades 1–8 Hintana and Awigna books, the Amhara RSEB also adapted the Grades 1–4 and Grades 5–8 Amharic teacher training manuals to use in introducing the

new books to teachers. The experts who adapted the student books and teacher guides also worked collaboratively to adapt the training manuals with assistance from regional experts. This was followed by a 7-day training on the new books for 1,550 Grades 1–4 Hintana and Awigna teachers in February 2016.

Mr. Setu Ainalem, the READ TA Regional Manager for Amhara, appreciated the initiative the RSEB took to produce better books for the two other mother tongues. He stated that current conditions only allowed the RSEB to adapt the books developed for Amharic, but hopes that similar efforts by other RSEBs will be able to produce better books, especially if the READ TA approach is modeled in its entirety, including syllabi adaptation and scope-and-sequence development.

Amhara RSEB Curriculum Development and Implementation Core Process Owner,

Mr. Abebe Tamir, remarked, “We know that READ TA will not be here forever, but the capacity built for our region will remain an asset to our region. We draw from the experience to develop better books in other mother [tongues].”



Abebe Tamir, Curriculum Development and Implementation Core Process Owner, Amhara Region Education Bureau.

Photo courtesy of Hailu Melesse/READ TA

Annex C: READ TA-Provided Technology and Content Resources Enhance Pre-Service Mother Tongue Teachers Training at Colleges of Teacher Education in Ethiopia

Mr. Wuhab Nurhusen, Dean of Adwa College of Teacher Education (CTE), passionately speaks of the shift he witnessed in the way pre-service mother tongue (MT) teachers are trained in the CTE. “We learn from trainees that the revised pre-service curriculum and modules are making a difference. Mother tongue instruction is now supported with technology, which is enhancing the quality of [the] education we offer,” said Dean Nurhusen. Similar remarks were echoed from MT teacher educators and pre-be teachers at Adwa CTE.



Photo Credit: Hailu Melesse, READ TA

Wuhab Nurhusen, Dean of Adwa CTE

Ethiopia’s effort to transform pre-service teacher education in alignment to a revised primary-level MT curriculum has been technically and financially supported by the Us Agency for International Development (USAID)-funded Reading for Ethiopia’s Achievement Developed Technical Assistance (READ TA) activity. Engaging international and local teacher education



Photo Credit: Hailu Melesse, READ TA

Abebe Sahile, Tigrinya Language Teacher Educator, Adwa CTE

professionals, READ TA helped revise pre-service MT curriculum and develop seven pre-service teacher course modules in seven widely spoken Ethiopian languages. The modules were developed based on MT teachers training international best practices and focused on language specific skills with attention to the local context. Ethiopia is implementing these new course modules at CTEs supported with modest technology, multimedia MT content resources, and ongoing technical support from READ TA with gradual release building local capacity. With these inputs, CTEs have confidence in the efficacy of their instruction to produce competent teachers for reading and writing instruction at primary schools. In Ethiopian CTEs, MT instruction is now conducted in a technology-furnished classroom dedicated for MT instruction using tablets, LCD projectors, and document cameras. Teacher educators have also been trained experientially, while course modules undergo development and trial. The teacher educators easily access reading and writing instructional resources from a resource server set up by READ TA using their tablets.

A Tigrinya MT teacher educator at Adwa CTE, Mr. Abebe Sahile, used the new course modules and technology resources for six semesters. Mr. Sahile explained, “The tablets are making our instruction interesting and easier for students. Some language teaching skills are difficult to teach directly and the model teacher videos are helping us to practically demonstrate such skills.” Mr. Sahile added that multimedia content, such as audio recordings of blending and segmenting lessons and recordings of letter sounds loaded on the phonological awareness application, Papaya, supplement instruction.

Second year pre-service Tigrinya teachers at Adwa CTE complement the teacher educator’s remarks. Ms. Mleti Belay is among the pre-service teachers at Adwa CTE. She maintains that MT courses are of special attraction to her due to the technology-based resources and instruction. “I enjoy my Tigrinya class”, said Ms. Belay. “We bother less about taking notes and focus more on the lesson. I know I can refer [to] the module for notes [so] I follow lessons with full attention. Lessons are often presented through a projector, attractively.”

Inspired by the improvements in training language teachers, Dean Nurhusen aspires to extend the technology support to teaching other subjects like English and science. He remarked, “Technology is an input for quality of education. Improvements we see in mother tongue instruction motivate us to extend the technology support to instruction to other subjects. READ TA demonstrated how simple technology and resources can improve instruction. It also built capacity for our mother tongue teacher educators. The capacity built is not only important for our college, but for our region at large.”

Annex D: Ethiopian Teachers Using Assistive Technology to Address Low-Vision and Hard-Of-Hearing Students

“Although I often had intentions to support needy children in my class, my conviction has amplified after the training I received with this pilot.”



Photo credit: Hailu Melesse/READ TA

Haimanot Tsegaw, Grade 2 Amharic Teacher, Dudmen Primary School, Amhara Region

Ethiopian teachers are discovering the power of digital technology to address the needs of their low-vision and hard-of-hearing students. As part of a pilot initiative, teachers like Ms. Agere Melaku of the rural Zenzelima School in Amhara Region, are enthusiastically incorporating the new technology into their teaching practices. She noted, “Although I often had intentions to support needy children in my class, my conviction has amplified after the training I received with this pilot. I am now a step ahead of other teachers; I am

using technology in addition to the chalk and board. I tell that to my friends and am happy to be using technology in my class.”

Another teacher at Yakatit 25 Primary School in Amhara Region explained, “I learned that I can use the simplest technology in my hand to enhance my classroom instruction. After the initiative, beyond Amharic, I also began using my personal phone to complement my English class since I also teach English at the school.”

These are the voices of two of the 102 teachers who participated in the US Agency for International Development (USAID)–funded Reading for Ethiopia’s Achievement Developed Technical Assistance (READ TA) activity’s Assistive Technology Capacity Building Initiative (ATCBI), which was piloted in 65 schools across five regions.

The READ TA activity was initiated in October 2012 in response to alarmingly low early grade reading performances in mother tongues (MTs). READ TA successfully developed improved Grades 1–8 student books and teachers’ guides in seven of the most widely spoken MTs in Ethiopia by using proven approaches known to show fast results in students’ reading performance. READ TA has also integrated gender and inclusion as a cross-cutting theme in its work. One such effort illustrating inclusion is the introduction of assistive technology for low-vision and hard-of-hearing students. READ TA’s ATCBI aims to support the systematic implementation of the revised curriculum for reading and writing in MT in Ethiopia.

Before the rollout of assistive technology pilots at schools, READ TA collected baseline data from 65 schools in five regions of Ethiopia to screen Grade 2 children in selected classrooms for their vision and hearing levels and gather information about their MT instruction. Among more than 3,700 students screened, 150 children (4%) were identified with some hearing impairment and 211 children (5.6%) with some vision impairment during baseline. Consequently, READ TA rolled out its assistive technology pilot initiative by training 109 Grade 2 MT teachers and their principals, selected from 63 schools in five regions of Ethiopia. As per the design of the pilot, trained teachers were also provided with headphones and smartphones loaded with hearing and screening applications, as well as an inclusive multimedia lesson plan (IMLP).

Within one month of implementation, READ TA monitored the implementation of the assistive technology pilot, which signaled an early sign of success in teacher practices, including low-vision and hard-of-hearing students in MT classrooms. Out of the 102 Grade 2 MT teachers visited during the

pilot's monitoring, the majority were already observed to demonstrate recommended practices to accommodate low-vision and hard-of-hearing students. Further, most of the MT teachers faced the class while speaking, spoke loudly and clearly to all students, repeated instructions and questions to ensure that all students understood instructions, wrote in large print on the board, repeated student responses to the whole class, wrote lesson directions on the board, and demonstrated other inclusion recommendations from the IMLP loaded onto their smartphone. Teachers attended to and exerted efforts to accommodate students with hearing and vision impairments in their instruction. They also were interested in using technology to support their instruction. With these results, school leadership were enthusiastic to support the implementation of the assistive technology initiative.

After three months of implementation, teacher attitudes and self-efficacy to inclusive education improved significantly, as did teacher adoption of foundational inclusive practices in the classroom. At the student level, students who were identified for a potential vision or hearing impairment in intervention classrooms demonstrated similar learning progress compared to their peers without such impairment, although the study had already found measurable differences in reading achievement between these groups at baseline.

In conclusion, the innovation of using pedagogical support tools on smartphones as assistive technology at the teacher level was appropriate for the context of the participating schools in Ethiopia, as well as effective in improving inclusive reading instruction.